

**HOUSEHOLD INTERVENTION AND RESIDENTIAL  
SATISFACTION IN LOW-INCOME HOUSING IN  
KISSY, FREETOWN**

by

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## **ABSTRACT**

**My involvement with low-income housing development in Freetown particularly in the Kissy area between 1983 and 1988 sparked my interest in the evolving problem of housing deterioration in most parts of the city. The dominant theme of almost universal relevance, i.e. housing improvement, had impressed itself upon me as a result. I therefore felt that a comprehensive study of the problem need to be carried out. If one permits his hopes to condition his speculations, one may conclude that housing improvement among low-income households will improve the quality of life for the majority of the inhabitants of the city who are in the low-income groups. It is this fundamental aspiration that propelled me to undertake this study with the hope that improvements made by low-income households themselves will be a potent factor in housing improvement that eventually leads to a greater satisfaction. If this study succeeds in casting a stronger light on the importance of housing improvement by low-income households, and if it also inspires greater attention to this problem in government policies and in aid programmes, it will have more than served its purpose.**

**The present study therefore, focuses on issues related to household intervention in low-income housing in Kissy and its relationship with residential satisfaction, and the residents attitudes and perceptions of their housing and how these may influence their values as regards their intervention in their housing in an attempt to improve its quality. The central question the research seeks to answer is: "is there any relationship between intervention of households and the satisfaction they derive from their housing? If so, which factors are involved?"**

**The study also distinguishes between three types of household intervention: active, passive and balanced household intervention. The factors we believe may influence household intervention are: available resources, housing management control, residential attachment, previous housing experience, preferred housing, and their demographic characteristics i.e. household density, household size, household income; age, education and occupation of the head of household, and their residential status.**

**To achieve these objectives hypotheses were derived based on the above factors. Statistical analysis which include Pearsonian correlations, Chi-square tests and analysis**

of variance were performed on data gathered in a survey conducted in Kissy between November 1990 and March 1991. The results indicate that residential satisfaction was positively associated with household intervention. This was more so for owner occupiers than renter. The former also carried out more interventions in their housing than the latter. Residential attachment, housing management control, household size, and household income were the factors found to be significantly associated with household intervention.

It is hoped that findings based on the assumptions and limitations of the study will be satisfactory for use in Public policy making, programme planning and implementation, and will also provide useful information to those involved in the design and improvement of housing for low-income families in Kissy.



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## CHAPTER 1

### INTRODUCTION

#### 1.1 NATURE AND PURPOSE OF THE STUDY

The desire for change in Sierra Leone is overwhelming. This desire manifests itself on all fronts of which the desire to improve the housing conditions particularly for the low-income families is an important component of what ultimately determines the quality of life of the inhabitants. The inhabitants' perceptions of their housing environment are important for their adjustment and active participation in improving their housing, and it is to such human practical results that we hope this study will lead.

Concerned citizens and the government have long since been trying to provide decent housing for the low-income families in Freetown and in trying to address the problem of housing shortage as far back as 1961 just after the country gained independence (Bery, 1963). The government embarked on housing projects largely based on the assumptions that inadequate housing was a breeder of crime, disease, and social malaise, and that new housing which was structurally sound, had adequate lighting and space would alleviate problems of slum life. They expected that low-income people would be satisfied with the new housing which were materially superior to their old dwellings. Despite the euphoria and policies developed in the sixties and seventies very little has been achieved in meeting the objectives, and the problems of housing shortage and the deteriorating condition of the existing housing stock still persist. Majorities of the families who could not be housed by the government were left to house themselves. Those who were fortunate to acquire land managed to build their own homes, and those who were less fortunate were either homeless or were left to rent their homes from private landlords. The shortage of funds and other resources preclude the possibility of the public sector to house these large numbers of families in Freetown or improve their existing housing that presently is in a deteriorated condition. A report from a survey of 850 households in Freetown identified sanitation as the number one housing problem in Freetown and went further to recommend that priority and emphasis should be given to urban upgrading programmes to improve the current housing stock and services and provide incentives to individuals to improve their housing rather than constructing new housing which few can afford (Wage, 1986).

Growing concern for the quality of the physical and social environment has prompted researchers from various disciplines to concentrate their research efforts upon

contemporary environmental problems with the fundamental assumption that an understanding of the relationship between man and his environment gained through scientific inquiry would ultimately provide guidelines for urban planning and design (Stokols, 1972). Among the phenomena that have drawn attention are those related to how building users endow their housing environment with meaning, how they personalise it and of more recent the user's contribution in shaping and improving the quality of their housing environment. Emphasis in the past has been to regard users as passive entities who adjust and make prudent use of their housing environment rather than being involved in the process of housing production and improvement.

With the present economic situation in Sierra Leone the government is hardly in any position to meet the cost of improving the existing housing stock. The potential for individuals to improve their housing becomes more valuable as a resource for the desirable improvement of the housing environment for low-income families in Freetown. The household is faced with a choice between doing nothing and allow their home to deteriorate and be less satisfying, or intervene by maintaining and improving it to achieve personal satisfaction by the realisation of their personal values.

The choice that a household makes will depend on several circumstances within the household's internal and external environments. Whatever the choice, personal value priorities will be potent factors. "We cannot have attitudes toward anything without judging, without discriminating. .... Our decisions are based on our values, and our values are never more on display when they are in our choices of things we do to satisfy ourselves." (Brightbill, 1963 )

The household's goals for maintaining and improving their home are usually directed towards the achievement of personal satisfaction i.e, the realisation of personal values. Public goals on the other hand, relate mainly to community welfare and development. The achievement of both goals for housing improvement involves values, resources, and interaction patterns among individuals and social subsystems of the community. Thus, the extent to which households choose to maintain and improve their housing reflects interactions that emerge from value orientations and the availability of resources. Related to this is the notion of the environment as a behaviour setting which may be neutral, inhibiting, or facilitating (Barker, 1968; Goffman, 1963). Within this notion of man-environment interaction the choice model sees design as any man-made change in the physical environment and that all man-made environments are designed in that they embody human decisions and choices (Raporport, 1976).

The present study was an attempt to identify ways in which low-income households of Kissy, Freetown intervene in their housing by maintaining and improving it , which we

will refer to as 'household intervention', are associated with the satisfaction they derive from their housing (residential satisfaction). The search for available literature concerning this problem resulted in little information either in Freetown or elsewhere. The question is, "is there any relationship between household intervention and residential satisfaction?, if so, which factors facilitate or inhibit the household's intervention in their housing?" Do certain household characteristics and environmental factors more than others affect the household's intervention in their housing, and if so, can households be typed and their interventions measured?

Answers to questions such as these could be useful when planning adult education programmes; can open new avenues in which further research could be pursued; can be useful to policy makers when making decisions concerning regulations and programme planning and implementation for low-income housing, and to professionals involved in the design and production of low-income housing.

## 1.2 SPECIFIC OBJECTIVES

The special aim of this study was to identify the ways in which household intervention is related to residential satisfaction and which household characteristics and environmental factors are associated with household intervention. The objectives of the study derived from the central question presented earlier include:

1. To determine the demographic characteristics of the families of low-income housing in Kissy.
2. To determine the extent to which the residents have intervened in their current housing.
3. To determine the relationship between their intervention and the satisfaction they derive from their housing.
4. To determine the relationship between their intervention in their housing and :
  - the resources available to them for intervening in their housing
  - their attachment to their housing environment.
  - the control and use of their housing.
  - their preferred housing
  - their previous housing, and
  - the demographic attributes of the families.
6. To determine the amount of improvement and maintenance carried out by the residents in their housing and to compare the two for both owner occupiers and renters.
7. To determine the type of improvements and maintenance carried out by the residents and the values of these activities to the residents.

8. To determine the residents attitudes and evaluation of their housing and how these relate to their intervention in it.

To achieve these objectives, a survey of low-income households who were owner occupiers, renters in both private and in the public low-cost housing in Kissy, was conducted. The survey was carried out between November 1990 and February 1991 and the data collected was analysed, using various statistical techniques to test the hypotheses presented in this study in an attempt to answer the research questions.

### 1.3 ASSUMPTIONS AND LIMITATIONS

The design of this study in search of answers to these questions is based on various general assumptions and limitations, whether they are adequately recognised and represented. Individuals show great variation in their evaluative criteria, and change with time. Undertaking a study such as this, which involves both objective and subjective attributes of individuals as they relate to their housing environment, presents difficulties in developing accurate measures that would yield factual data that can be put together with any clarity or focus. The dilemma presented by the selection and application of any particular measure in an area plagued with controversy has been a subject of concern to many, among whom, Bauer (1966) summed it up in the following question:

"Is it better to have a crude measure of the variable you are really interested in, or a precise measure of a variable which is only an approximation of what you are interested in?"

The difficulty in carrying out such a study will undoubtedly require certain general assumptions to be made and limitations imposed by virtue of the nature of the study itself. The general assumptions underlying the present study were that:

1. the sample selected would be representative of low-income households in Kissy, Freetown who have lived in their current dwelling for at least two years.
2. the research instruments developed and used would produce adequate and valid information in terms of:
  - a. independent responses by heads of households or their representatives who are adults over the age of 18 years.
  - b. adequacy of information and truthfulness of the respondents in answering the questionnaire, and
  - c. the indicators and measures adopted for the different variables in the hypotheses.

3. the statistical tools selected for description and analysis would produce results on which sound generalisations could be made.
4. change over time takes place slowly with respect to:
  - a. the demographic household characteristics
  - b. environmental characteristics of their housing and
  - c. patterns of housing maintenance and improvements made.

If these assumptions were reasonable, then the data and findings should be sound and applicable to the housing situation for some time into the future with respect to low-income families of Kissy, Freetown. Findings will then be satisfactory for use in public policy making and programme planning and implementation for housing improvement among low-income households of Kissy, Freetown.

It is difficult to design and conduct research where certain limitations of methods, procedures, and so forth do not result in some lack of data control or participation. At the outset of this study several limitations had to be accepted because of restriction of time, finance and method available. Among these were:

1. the study was confined to neighbourhoods in Kissy which may limit the generalisation only to these neighbourhoods.
2. For most sensitive statistical techniques such as multivariate, the sample size was too small.
3. Analysis of the data will be incomplete, and perhaps more refined measures could have been used that were not because of the restrictions on time and money. This was intended to be a developmental study to find ways to measure household intervention, plus the general associations with a variety of household and housing characteristics.

#### **1.4 ORGANISATION OF THE STUDY**

The search for answers to the questions this study seeks to answer has proceeded through four different but overlapping phases as follows :

##### **Phase 1**

The development of criteria that identified those areas where aspects of residential satisfaction are reinforced by the characteristics of household intervention. This phase mainly deals with the research design which involves:

- a) the specification of the research questions
- b) conceptual definitions
- c) the derivation of hypotheses to test

- d) the definition of the population to be studied.

## **Phase 2**

This phase deals with the development of measures for the characteristics. These measures must be relevant to the central concern of the study, quantifiable, standardised and readily available. The phase involves the sample and sampling strategy. It also involves the variables in the hypotheses and how they are measured together with the scaling technique employed.

## **Phase 3**

Phase three deals with how the relevant data is collected. It involves the design, pre-testing through a pilot study, and revision of the research instruments for collecting the relevant data.

## **Phase 4**

This phase involves the analyses and interpretation of the data collected. Its aim is to determine whether residential satisfaction is a function of household intervention and which factors identified previously are correlates of household intervention.

The research questions raised earlier in this chapter are further developed in chapter 2 within the framework of the uncertainties identified in the current housing situation for low-income families in Kissy, Freetown. This chapter also examines the current state of knowledge as they relate to the present study. Chapter 3 attempts to provide answers to the research questions raised in the previous chapter. These answers culled primarily from theory were presented in the form of hypotheses. This chapter also deals with the operationalisation of these hypotheses, identifying and defining the variables involved. Beyond this, the study attempts to reinforce the argument with empirical evidence. Chapter 4 deals with the research strategy, the design and development of the instruments and measures used for the collecting of the relevant data for measuring the different variables in question. Chapter 5 begins by presenting a statistical description of the sample and goes on to describe the results of the survey as they relate to household interventions and the specific maintenance and improvement activities carried out by the households in their housing. The chapter ends with a summary of the results obtained.

Chapter 6 deals with the testing of the hypotheses. Three types of statistical analysis are applied in testing the relationships in our predictions, and a summary of the results found appears at the end of the chapter. Chapter 7 examines the respondents' attitudes and evaluations of their housing. Two major aspects are described; the respondents'

attitudes and evaluations of their dwelling units and their immediate neighbourhoods. The chapter also ends with a summary of the results found from the analysis. Finally, the study ends with Chapter 8 which deals with the conclusions and recommendations. Interpretations of results from the previous three chapters are presented and it goes on to make recommendations where additional programmes would be useful or additional information could be gained. The recommendations are targeted at three general areas; those of education, research, and public policy. The chapter ends by summarising the major findings and issues raised in previous chapters.

## CHAPTER 2

# RESEARCH QUESTIONS

### 2.0 INTRODUCTION

In this chapter some of the problems raised in the introduction will be expanded on with the aim of identifying and presenting the uncertainties of the current housing problems in Freetown particularly in the areas of residential satisfaction and household intervention. These uncertainties will be discussed in light of existing literature dealing with these areas of the residents' housing.

Major questions which the study seeks to address will be identified, grounding them in theory which will lead to the development of the hypotheses in an attempt to answer these questions bearing in mind the need to minimise or eliminate housing shortage for low-income families in Freetown. But first let us look at the underlying theoretical considerations regarded as the lynchpin of the research design.

The quality of the housing environment of the residents can generally be expressed in terms of their satisfaction with their housing environment and invariably, takes into consideration the montage of the conditions or characteristics of their housing environment to which they are exposed and the impact these conditions and characteristics have on their lives. This suggests that the evaluation of the quality of the housing environment to which they aspire goes beyond the mere characteristics of the environment to encompass the impact of these characteristics on their lives, and focuses on the fundamental principle in man / environmental interaction to which Ittelson et al (1974) have referred to as the 'dynamic interchange between man and his milieu'. It sees man not as a passive product of his environment, but as a goal-directed being who acts upon his environment and who in turn is influenced by it.

Related to this is the notion of the environment as a behaviour setting which may be neutral, inhibiting or facilitating as developed by Barker (1968) and Goffman (1963). From this notion of man-environment interaction different models have been proposed of which the one we consider fundamental to this study is the choice model of design proposed by Rapoport (1976). This paradigm has been selected for this study not because of any inherent superiority it may possess over others but has been selected on the bases of convenience and its strength in depicting the substantive issues the study



addresses. The model sees design as any man-made change in the physical environment and therefore all man-made environments are designed in the sense that they embody human decision and choices (Rapoport, 1969). It is further argued that if the choice model of design is valid then it becomes necessary to know how and for what reasons are choices made and on what criteria are they based. The differences in the underlying choice criteria are based on the choice process which involves the elimination of alternatives that tend towards congruence with some ideal so as to maximise a set of ranked values. This process is then the modelling process whereby people try to make the built environment fit some ideal conceptual image or schema.

The notion of choice model of design is value-saturated and closely linked to the hierarchical notion of the concept of culture to which Bauman (1973) had this to say :

"The term '*culture*', if understood hierarchically, can hardly be used in the plural. The concept makes sense only if denoted straightforwardly as *the culture*: there is an ideal nature of the human being, and *the culture* means the conscious, strenuous and prolonged effort to attain this ideal, to bring the actual life-process into line with the highest potential of the human vocation"

Section two of this chapter deals with the literature review in the area of residential satisfaction and household intervention. The uncertainties identified with housing problems for low-income families in Freetown and in particular the need for the residents' contribution in alleviating these problems is treated in section three. Section four deals with the research questions the study seeks to address which are developed from the uncertainties identified in section three.

## 2.1 LITERATURE REVIEW

Considerable research has been done on various aspects of housing, but little information is available concerning the residents' housing satisfaction, particularly that which pertains to the residents' intervention in their housing environment. In order to fully understand these aspects of housing it is necessary to examine them and their determinants separately in light of the research already done.

The study of residents and their housing environment, how they achieve identity by personalising and intervening in it, and consequently the satisfaction they derive will require consideration of a sufficiently great array of factors that goes beyond a microscopic view in order to be able to randomise out idiosyncratic effects. The range of factors relevant to this study is wide and drawn from several intellectual

perspectives. When researching within a conceptual framework as this study entails, it becomes necessary to derive a clear and distinct definition of the various concepts involved, and then to formulate ways of obtaining empirical measurements for them. The areas in which knowledge was needed as a basic background for the present study were: residential satisfaction, household values, housing values, household characteristics that may affect the process of housing.

This review makes no attempt to emulate the rigorous approach that characterises standard texts in the field, and its aim is neither pedantic nor esoteric, but to give a coherent description of the diverse array of findings and theory from this field pertinent to the study. Our references are selective and they have not been sorted out to include all the specialised reports and investigations growing out of these areas of housing simply for the sake of satiety. They are however, representative of what we believe to be the major lines of enquiry in the field. The presentation of this review has presented us with a dilemma, invariably one of tension between the succinct communication and a complete scientific documentation. A short list of conclusions and recommendations might be more direct, but it would suffer from lack of context and factual support. Consequently we shall endeavour to communicate findings in this area as directly as we can without losing sight of the factual supports our assertions deserve.

### **Residential satisfaction**

Ideas about the concept of residential satisfaction are so diverse that there is no commonly agreed definition of the term. Analysis of the various ideas on the concept do however reveal some common threads which makes it possible to deduce a definition that represents a synthesis of thinking on the concept. Such a definition will however be predicted on the concept of satisfaction. Satisfaction of residents is one indicator of the quality of living environments, and assessing the level of housing satisfaction involves several complex social and organisational phenomena (Carp, Zawadski and Shokrkon, 1976; Galster and Hesser, 1981; Hempel and Tucker, 1979; Michelson, 1968; Onibokun, 1976; and Rent and Rent, 1978). Even people who do not benefit directly from housing projects but reside in the improved neighbourhood are expected to be more satisfied (Ball and Heuman, 1979).

Turner (1972) in referring to housing as a verb which describes the process or activity of housing as a product has noted that its vital aspects are not quantifiable at all. He identified the most important of these aspects as the satisfaction or frustration of needs. He further pointed out that the margin of variability between housing and housing satisfaction is wide and that the analysis of the impact of housing on the lives of people is justified on the basis of the activities which are relevant to personal life; that is, those

which can act as vehicles for personal fulfilment, assuming that fulfilment and maturity in turn depend on personal responsibility for making decisions that shape one's life.

Housing satisfaction is therefore regarded as a major component of overall satisfaction (Campbell et al, 1976; Ahlbrandt and Cunningham, 1979). Satisfaction has been a major consideration in the analysis of the concept of quality of life which has been referred to as the montage of the conditions of life to which one is exposed and their impact (Withey, 1974); the rewards and disappointments which make up the experience of living (Campbell, 1974); or as it has been argued that such a concept should be understood as an evaluation of gratification which people derive from the degree to which their material and mental needs are actually satisfied (Bestuzhev-Lada, 1980).

Satisfaction can be defined as the "perceived discrepancy between aspiration and achievement" (Campbell et al, 1976) - a judgmental and cognitive, in short a subjective attribute. Zimring (1982) noted that satisfaction or dissatisfaction may result from a process by which people attempt to achieve congruence between their needs and goals and what is provided by the social and physical environment. Michelson (1977) pointed out that satisfaction of residents in a study (carried out in high rise blocks in Canada) was based partly on aspirations. This is because what most of them do is not necessarily what they want to do, but what they think of what they now do is based on whether they can do what they want to do in the long run. This process is dynamic, emotional and cognitive which require the continuous weighting of the important factors both social and physical and balancing them to achieve what Michelson (1976) termed 'mental and experiential congruence'. Morris and Winter (1987) have also pointed out the most probable cause of reported satisfaction is a measure of the extent to which unfulfilled needs exist. Satisfaction derived from the fulfilment of particular needs at a point in time may result in dissatisfaction at a later time. This suggests that the development of satisfaction is a dynamic process and reiterates the need for a temporal perspective and requires its thorough analysis beyond the generally accepted notions of housing needs expressed by a range of architectural and social variables during the course of time (Lawrence, 1987).

Problems do arise when we attempt to apply the concept of satisfaction to housing for the fact that individual housing needs and requirements differ from person to person (Campbell et al, 1976). Not only that they vary from time to time, indeed the same individual may find the same housing situation satisfactory at one point in time but quite unsatisfactory at another and vice versa. Brink and Johnston (1979) have defined housing satisfaction as "a continuous subjective individual response to housing need gratification resulting from an evaluative process comparing.....expectations, .....and perceived experience to present time". Gehl (1971) proposed that housing satisfaction

should be looked at as the result of an interplay between the expectations of the inhabitants and the degree to which the environment fulfils these expectations. If the expectations are met to a high degree, the inhabitants will have a high level of satisfaction; if the expectations are met to a low degree, the inhabitants will have a low level of satisfaction.

Studies have indicated the need to clarify the concept of housing satisfaction by distinguishing between two aspects of this concept that of the housing unit itself and its neighbourhood (Wirthe, 1947 and Schorr, 1963). Similarly, other studies (Rent and Rent, 1978 ; Chester and Hartman 1972) have considered residential satisfaction as two distinct concepts, satisfaction with dwelling unit and neighbourhood. Chester and Hartman found that feelings about the low-income neighbourhood they studied markedly influenced attitude of the residents towards their apartments.

Many studies on the causes of dissatisfaction have been carried out. Caplow (1948) for example, found that the level of satisfaction is related to the age of the dwelling, the size of the dwelling, and to being too close to the city centre. He also found renters to be more dissatisfied than owners on all the aspects of their housing about which they were questioned.

### **Functional compatibility**

It is fundamental for an individual to be able to establish harmony, consistency or congruence between the various aspects of his immediate environment and his activity system. According to Festinger (1957) there is a drive in the human organism toward this consistency. The need to establish this consistency or compatibility puts the individual in an active and interactive role vis-a-vis his environment. This man-environment interaction is an ongoing process and according to Marcus et al (1972) it is incomplete to consider an environment without an activity taking place in it or vice versa.

Michelson (1976) postulated an "inter system congruence model" to explain the interaction between the built-environment and its users. The model suggests that the physical setting by itself does not determine behaviour, but if congruent with the purpose and goals of the individuals who occupy the setting, then they provide support for the behaviour necessary to realise these goals and purposes. Binder et al (1975) referred to optimal environments as those in which the physical and social characteristics of the environment are congruent with the personal needs and cultural values of its inhabitants.

The inter-system congruence model which stresses the interdependence and interaction of variables from several systems (i.e housing and families), involves both mental congruence and experiential congruence. Michelson defined mental congruence as what an individual thinks will satisfy or accommodate his or her personal life-style and needs. On the other hand, experiential congruence means "how well the environment actually accommodates the characteristics and behaviour of people". Michelson's model is particularly applicable to housing satisfaction research because the balance of its components, which results in inter-system congruence, implies satisfaction with one's housing. "A satisfactory environment provides for all relevant desired activities, but also lessens or eliminates the opportunities for activities which are not desired" (Michelson, 1976 : 231). Michelson also contended that knowledge of what people perceive as congruence (mental congruence) is as necessary as experiential congruence.

Similarly, Gans (1968) distinguished between potential and effective environments. Proposed built-environments form the potential environment but what people do in the environment, because it is tempered by the social system and culture, produces the effective environment. According to Gans, the effective environment determines the behaviour that occurs in the potential environment. Like Michelson (1976), and Rapoport (1967) who considers a building ideally as a setting in which we find our meanings, Gans argued that it is essential to assess what people want and need when planning the built-environment.

When an architect plans and designs a housing estate, for example, implicitly he is creating a relationship between human beings, their activities and the inter-association of these activities as pointed out by Olivegren (1971). Through the achievement of the architect, he exercises a not inconsiderable influence on the future socio-psychological climate of the estate. Conflicts between the social values of the inhabitants and the provisions of the physical housing environment may emerge if congruence is not achieved. The emergence of such conflict has been attributed to the failure of most designs to cater for the latent functions of behaviour required for social and psychological stability in cultures of the intending users (Broling and Zeisel, 1972), and at the same time laying emphases on the manifest functions of behaviour.

In the study of functional compatibility, Brolin and Zeisel (1972) recommended that two things be established : whether the existing physical form is compatible with the prevalent social patterns; and what patterns do the physical form make difficult or easy. They also suggested some items or indicators of incompatibility between the existing physical form and the social needs of the residents. These included : changes made in the original form e.g. doors nailed or ramps built over steps; aspects of the environment totally unused e.g. playground or balconies; and aspects falsely used e.g. children

playing in the streets. Brolin and Zeisel also suggested that to find out what patterns the physical form allows, we should translate an observation of the existing physical environment into the requirements it seems to fulfil.

The interdependence between the built environment and the social patterns of individuals are quite frequently taken for granted and it is only when changes take place in the physical environment that we become aware of its effect.

"The environment frequently operates below the level of awareness. It is when our environment is changed that we become aware of it because it is at this point that we consciously begin to adapt. For most part we take the environment for granted, and although we may be aware of the effect - how it feels to function in a given milieu - the effect of this on our actions can be wholly subliminal"

Ittelson et al (1974)

### **Human values and housing values as related to intervention**

Much work has been devoted to the question of human values as they relate to the choices and behaviour of individuals within their settings. Sierra Leone is now undergoing basic transformations in various aspects regarding the individual and his housing environment, and this requires many vital choices and values to be made. These are vital choices because the values people have are important factors in the determination of their behaviour. However, as Braier (1971) pointed out the problem of making such choices is intractable because the values people have serve as the rational determinants of their choices. He said that "when we choose one course of action in preference to another we do so because we have reason to think that it, rather than the other course, will help to realise at least some of our values". Ittelson et al (1974) also on the question of human values had this to say:

"For the extent to which we achieve an identity in the environment is not simply the prudent use we make of it , but in the human values we express through our willingness to shape it to an ethical end"

For the purpose of research the term "values" needs precise definition. In the following discussion, several prevalent conceptualisations from the literature are presented.

Looking back over studies that have been made in the field of values, one of the initial concerns about human values and their measurement comes from Vernon and Allport (1931). To compare groups of people, they used a system for ranking value-related statements in six value areas including those that were primarily theoretical, economic, aesthetic, social, political, and religious. Since this initial study, values have continued to appear as part of research but have remained intangible employing a bewildering

profusion of terms ranging from what a person wants, needs, prefers, desires, enjoys, through to what he thinks desirable, preferable, rewarding, obligatory, to what the community enjoins, sanctions, or enforces (Baier, 1971).

Cutler (1947: p 5) for example, saw values as the root of human motivation while Kluckhohn (1951 : 395) said, "a value is a conception, explicit or implicit, distinctive of an individual or characteristic of a group, of the desirable which influences the selection from available modes, means, and ends of action." Others, such as Williams (1967 :20), within the context of individuals in a group, saw values as "generalised criteria of important causal components in an individual's conduct in the functioning of social systems." He believed that values were manifest in human behaviour and that they emerge from experience, with the proportion of behaviour which could be accounted for by values varying with situations. Williams also felt that values were continually changing, affected by the things around us such as communication media. In much the same vein, Downer et al (1968) saw values as changing but along the line of stages in the life cycle of the family involved. They found that dominant values change as family life cycle changed. Rokeach (1973: 5) noted that "if values were completely stable, individual and social change would be impossible." Change should be related to the stages of family cycle and cultural background of individuals. Both of these change as do the people involved and the particular group."

Others such as Baiers and Rescher (1969: 108) have said that "choices manifest preferences which in turn mirror values." Schiebe (1970 : 63) saw values as "the evaluation of adequacy of performance" and noted that if values are defined and held constant, variations in behaviour will correspond to variation in expectancies. From this point of view, role expectations are translations of beliefs and values. Hutcheon (1972: 172, 180) saw the study of values as the key to a more adequate understanding of man in society. He says:

"if values provide the key to that organisation of stored experience within the organism by means of which the 'self' evolves, and to selection and shaping of current experience that makes every individual a unique bundle of potential responses, then it is folly to imagine that such values can be identified in isolation from concrete behavioural choices in which they are manifest."

He noted that values are learned criteria that predispose persons to act as they do and that values can be identified only in so far as regularities can be discerned. Smithe (1969 :100, 102) declared that when we talk of values and valuing, we are confronted with persons in the process of selection or choice with respect to objects. He said,

**"personal values in the present sense are attitudes, but they are a special kind of attitude functioning as standards by which choices are evaluated."**

Beyer et al (1959 :4) drew up what they considered the generic characteristics of values before they began their study of values as related to housing and the family. Their list which includes ten characteristics of values, contains the following ideas. Values are conceptual, have an emotional element, are one aspect of human goals, affect choices and actions, may or may not be part of a system, and tend to affect behaviour and endure through time.

Schlater (1969 :6), dealt with values in terms of choice making. She said that values :

1. are conceptualisations or abstractions drawn from the meld of an individual's immediate experience,
2. deal with what is thought desirable, and
3. affect an individual's selection among possible courses of action.

In this way, Schlater and each of the others saw values as being affected by outside experiences and as affecting actions and behaviour

In order to look at values, one must make certain assumptions. Some of these assumptions, as summed up by Rokeach (1973 :3), include : that the total number of values is small, that all men have the same values but in varying degrees, that values can be organised into systems, and that they will be manifested in all behaviour. Rokeach (1973 :5) also noted that " if values were completely stable, individuals and social change would be impossible. " In addition to Rokeach's assumptions, Schlater (1969 :3) also assumed that values were one of the governing factors in decision making, are relatively stable, and could be identified.

If, as Schlater and Rokeach indicate, values can be identified and organised into systems, what are the functions of values then ? A search through the literature can give us some possible answers, and the analysis of the ideas though couched in the profuse use of various terms, would however reveal common threads. The following are just some of the ideas that have been employed:

1. "as standards to give conduct" (Rokeach, 1973 :13)
2. "central area of study of the comparison process" (Festinger, 1954)
3. "as a more economical tool for describing similarities or differences of persons, groups, notions or cultures" (Rokeach, 1968b : 14)
4. "the obverse of motives.....the object, quality, or condition that satisfies the motivations" (Baier et al, 1971)
5. "the object of any need" (Baier et al, 1971)



6. "a conception, explicit or implicit, distinctive of an individual or characteristic of a group, of the desirable which influences the selection from available means and ends of action" (Baier et al, 1971)
7. "the desirable end states which act as a guide to human endeavour or the most general statements of legitimate ends which guide social action" (Baier et al, 1971)
8. "normative standards by which human beings are influenced in their choice among the alternative courses of action which they perceive" (Baier et al, 1971)

As a result of the variety of definitions and discussions of personal values found in the literature, it was necessary to choose a definition for values in the present study. Baier and Rescher (1971 : 40) in discussing central value theory raised the need to draw the distinction between on the one hand the value of a thing and on the other, the values of individuals or societies. The value of a thing according to them is its evaluative property and refers to the capacity of the thing to confer benefit on someone, to make a favourable difference to his life. The magnitude of its value is a measure of that capacity. The values held by someone on the other hand refers to the person's dispositions to devote his resources in certain ways, if he takes them to be beneficial, to be good ways of expending his resources, or make his life better than other ways. Baier and Rescher's distinction and definition of the two values was found to be most suitable to our purpose.

Values as related to housing which is our area of concern would seem to be related to both experience and behaviour in complicated, variable and direct ways and are not simply manifested straightforwardly on the surface. They may also have higher or lower priorities such that the choice of goals in accordance with these value priorities are objectively narrowed when opportunities in general are reduced by the structure of the society in which the resident finds himself.

## 2.2 INADEQUACY OF CURRENT APPROACH

Even though intervention by residents in their housing has been given some attention by researchers in the past, only small amount of research has been devoted to household intervention in respect to their residential satisfaction. Almost all the research carried out in the area of intervention by the residents in their housing during occupancy have been in the more developed countries like Britain (Nutt et al, 1976; Hanson and Hillier, 1982 ), Sweden (Lawrence, 1987) and the United States (Morris & Winter, 1978), to which little attention is given to low-income families. The results of the

research into the relationship between household intervention and residential satisfaction are far from having been conclusive. In some cases emphasis has been on the propensity to carry out alterations and improvements to houses by the occupants as a result of housing deficit (Yorkey, 1976). Planned intervention resulting from housing deficit raises the issue of expectations. If we are to deal with low-income families in the less developed countries and to develop policies and housing programmes intended to alleviate housing shortage in terms of both quantity and quality, then our attention should be focused on their ability to intervene in their housing, and more so the intervening variables that may likely influence their ability to do so rather than the more illusive concept of planned intervention.

Most research into this area in the past has been devoted to the alteration and improvements resulting from housing dissatisfaction, and searching through the literature one would hardly find reference to the satisfaction residents derive as a result of their past interventions. Some authors have gone as far as proposing causal models of influences on residential alterations and additions as a result of housing deficit (Morris & Winter, 1978). Nutt (1976) proposes that the study of intervention should be approached from the perspective of the misfit that exists between the activity requirements of the users and the building provisions.

Some researchers have tried to distinguish between alterations and improvements on one hand and maintenance activities on the other thereby ignoring the latter and concentrating on the former in relation to residential satisfaction (Meek & Fireburgh, 1974; Morris & Winter, 1978). The household's effort in maintaining and improving the quality of their house is inextricably linked to both aspects of their intervention. Those that have tried to distinguish between improvement and maintenance have not only found it difficult to handle but that in some cases it is almost impossible to draw a clear and distinct line between the two. For example, a household that has replaced a worn-out door with a new door of much higher quality and standard than the previous one may not only be engaged in maintenance activity but also improvement activity. It is however necessary to make the distinction but if we are to gain anything like a true picture of the relationship between household intervention and residential satisfaction then we must deal with all the aspects of intervention that are bound to the maintenance of quality housing.

Quantifying intervention is an area plagued with controversy and the approach adopted by researchers varies diversely. Some have relied on the count of the number of activities (Bross, 1975; Yockrey, 1976). Sometimes the focus has been solely the amount of money spent on each activity (United States Bureau of Census USBC, 1976; Winger, 1973). We question these methods of quantifying interventions in that all interventions

do not necessarily mean the same to the household undertaking them. Some will be rated higher than others. Since these interventions are supposedly carried out in view of the residents' housing deficits, any measure adopted should reflect to some degree some aspects of the residents' subjective attributes. The shortcomings of the method utilising cost are first, it tends to down grade interventions that are inexpensive though important to the household. Second, it does not allow for the labour of the families who undertake the work themselves.

We propose that any method adopted should reflect the value of the interventions to those households who are subjected to them and should also take into account their ability to do so. The method we intend to adopt will allow for the shortcomings of current methods and will seek to quantify interventions from the value judgement of the subjects involved. We regard the number and cost approach as authoritarian presumptions that experts use in equating their objective measures to their subjects own value judgement.

### 2.3 UNCERTAINTIES IDENTIFIED

Rapid increase in urban migration in the early sixties led to increased demand for housing in Freetown. The Government's response was to adopt a policy of providing sufficient and adequate housing for its citizens especially low-income families. Housing projects were designed to meet this objective. Since then very little, if ever any, research has been carried out to determine the extent to which the objective outlined in the government's policy was realised. More housing projects have been completed and others are on the way with the same objective in mind. What may seem adequate or inadequate at that time may not be so now. Moreover, the definitions of adequate or inadequate housing are relative. This is not to suggest that the policy makers should put forward a concise definition of what constitutes adequate housing, as currently there is no workable definition in widespread use which describe quality housing in all its dimensions (Fish, 1979; Galster and Hesser, 1981; Hempel and Tucker, 1979), but to highlight the need for research into this area.

Housing need in Freetown for low-income families is very high particularly the need for more spaces in the households, improved services and access to new and better housing. Freetown generally is characterised as a densely populated urban centre averaging between 25 and 30 persons per plot. Between 1975 and 1986 the population

of Freetown grew at an average rate of 4.95%.<sup>1</sup> The increase was mainly due to the migration from rural areas which in turn imposed constraints on the housing market. The inability of the government to provide adequate housing particularly for the low-income families due to inappropriate housing policies and the lack of funds and experts coupled with the immense problems associated with low-income resulted in housing shortage and the deterioration of the existing housing stock. Presently, the housing stock in Freetown appears to be in a deteriorating condition, as Wage (1986) pointed out.

The troublesome problem of housing need clearly requires government intervention, but the vast number of deprived families make it almost impossible for the government to meet the demands of all in the short term. Substantial and costly programmes are clearly not on the government agenda due to the scarcity of resources. On the other hand the limited resource which the government has devoted to its housing programmes has only helped a favoured few. The dilemma is not easily resolved, but some headway can be made with a programme that provides the maximum number of houses with the minimum outlay, employs the maximum practicable amount of indigenous materials and leaves to the individuals as much of the work as they can handle.

The enthusiasm and euphoria of the sixties and seventies that the government can curb the housing problem by massive injection of funds into the construction of new housing for the low-income families has not only failed but also served a useful purpose ; it highlighted the importance of the individuals contribution in improving and providing homes for their families. The number of new housing units provided by individuals over the last two decades far out weigh the number of units provided by the public sector (Wage, 1986). Very few individuals in the low-income group can afford new housing. If the government housing programmes have to serve the majority who are in the low-income group the houses should be heavily subsidised, a commitment which the government can hardly afford under the prevailing economic conditions. Existing housing stock can however be improved and if given the necessary encouragement, the individuals active participation may well prove valuable. Wage (1986) also identified sanitation as the number one housing problem and recommended that priority and emphasis be given to urban upgrading programmes to improve the current housing stock and services and provide incentives to individuals to improve their housing, rather than constructing new housing which few can afford.

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<sup>1</sup> The 1985 National Census report. Population Census Unit, Central Statistics Office, Freetown (Unpublished)

There is an immense potential for the individuals to improve their housing and this is clearly shown in the new housing estates in Kisumu. The new units were hardly completed when the tenants moved in. The core units provided were brick structures, roofed with doors and windows installed, outdoor toilet and kitchen were also provided. The units were without electricity. Fig. 1 in Appendix 'D' shows a photograph of some of these units before the tenants moved in. The photograph was taken in October 1986. Fig. 2 shows the same units two years later. This demonstrates the extent to which individuals can personalise and improve their housing for comfort and satisfaction.

Various questions need to be asked and a whole series of factors taken into account if we are to rely on and effectively utilise the potential the people have in improving their housing; such as how do the inhabitants perceive their housing environment, which standards do they consider satisfactory, what are their capabilities and to what extent do they carry out their interventions in light of their prevailing socio-economic conditions, and finally do they derive any personal satisfaction in carrying out these interventions. These questions will be developed in the next section of this chapter and will constitute the research questions this study will seek to answer.

## 2.4 RESEARCH QUESTIONS

In the last section the pressing issue of housing need and the present housing condition were discussed. In this section we will attempt to identify the questions which the study seeks to answer. Any attempt to do so should invariably take into consideration the montage of the conditions or characteristics of the housing environment of the residents of Kisumu and the impact these have on their lives. This in part deals with the quality issue of the residents housing environment, which in reference to what was said in the literature review can be expressed in terms of their satisfaction.

The individual in his housing environment interacts with it and in so doing is not only influenced by it, but uses it, modifies and changes it in order to meet his goals more readily. This interaction as Ingrid Gehl (1971) sees it is a result of the interplay of the expectations of the individual and the degree to which the environment fulfils his expectations. The lesser the degree of fulfilment the less satisfied is the individual. This raises the question whether the need of the individual to make compatible his social needs and values with the provisions of the housing environment has any relationship to his intervention in his housing environment. Is it reasonable to assume that the essence of the residents' intervention in their housing environment is to derive satisfaction?

So far no mention has yet been made of the possible influences residential status may have on RS and HI. Questions need to be raised of the influences of residential status on RS and HI if an in-depth analysis of the relationship between RS and HI is to be carried out. Some of the questions that this study has delineated are: a) will home owners intervene more in their housing than renters?, b) is the influence of renters in private housing on household intervention and residential satisfaction the same for renters in the public low-cost housing development ?, c) If the influences of the various sectors differ, which factors influence each housing sector, and in what way?.

As we pointed out earlier in this chapter it is relevant to make a distinction between what constitutes improvements and maintenance even though it may be difficult in some cases. So far no attempt has yet been made in this study to make this distinction. If we are to address housing problems in Freetown associated with low incomes and the role the individual plays in bringing about better housing conditions for him and his family, not to mention the general population who are likely to benefit from such improvements, then we must look at intervention not only in its totality but also as distinct aspects, i.e. improvements and maintenance. If we are to make any headway in this direction then we must ask certain questions relevant to the analysis of the relationships between these distinct aspects of intervention and residential satisfaction. Will the residents' improvement activities as related to their RS be the same for maintenance activities?, or will the relationship between RS and HI for improvements and maintenance activities as distinct concepts be different from that presented by the overall intervention?

The questions deduced from the foregone discussion representing the central concern of this study can therefore be presented as follows:

- Q1. "Is there any relationship between the satisfaction the residents of low-income housing in Kissy derive from their housing environment and their intervention in it?"
- Q2. "Which environmental factors and family characteristics are most likely to be significantly associated with the residents' intervention in their housing and the satisfaction they derive?"

Attempt will be made to answer these questions primarily from theory in the next chapter. The answers will be presented in the form of hypotheses which will be operationalized in order to identify and define the relevant variables which the study will address.

## CHAPTER 3

### HYPOTHESES

#### 3.0 INTRODUCTION

As was indicated in the previous chapter the quantity, not to mention the quality, of studies related to an analysis of the relationship between household intervention and residential satisfaction is not impressive. Despite this, studies that have tended to be more structured (e.g. Moris & Winter, 1978 ; Campbell et al, 1976; Onibokun, 1976; Rent and Rent, 1978) have assisted in delineating the areas of enquiry for the present study. The areas of concern that are derived from the research questions stated in the previous chapter can be conceptualised into eight categories:

1. Residential satisfaction which includes the satisfaction with both the resident's house and immediate neighbourhood.
2. Household intervention - the changes, alterations , improvements and maintenance carried out by the household to their dwelling unit.
3. Housing management control - the control over and management of the resident's dwelling unit.
4. Available resources - the financial, social and physical resources at the disposal of the residents for carrying out their interventions.
5. Residential attachment - the degree of integration, involvement or belonging to the resident's immediate neighbourhood.
6. Residents previous housing experience.
7. Residents preferred housing.
8. Residents demographic characteristics - this includes household density, household size, household income, the age, educational qualification, and occupation of the head of the household and the residential status of the household

These areas identified represent those we believe to be useful in the present study and are not presented as a logically exhaustive list of all factors relevant in the analysis of the relationship between residential satisfaction (RS) and household intervention (HI).

Much has been said about residential satisfaction in the previous chapter. The following section will therefore discuss the other variables and we hope to draw as much as we

can from current knowledge in an attempt to define these variables without losing sight of the main issues the research seeks to address. In the next section attempt will be made to derive answers to the research questions posed in the previous chapter. The answers will be presented as the hypotheses this study will attempt to test empirically. The final sections that follows will isolate the variables in the hypotheses and will be treated separately.

### **3.1 HYPOTHESES**

The main research question the study seeks to address can be restated as follows:

1. "Is there any relationship between the satisfaction residents of low-income housing in Kisumu derive in their housing environment and their intervention in it?"
2. "Which environmental factors and family characteristics are significantly associated with household intervention and residential satisfaction?"

The residents of Kisumu seek satisfaction in their housing environment, and their character and intentions are goal-directed. In trying to derive this satisfaction they do not only endow their housing environment with meaning but actively intervene in it by changing, improving, altering and maintaining it to their required standards. They are therefore not simply making a prudent use of it but expressing their values through their willingness to intervene in it. One can therefore assume that:

**"The residents' behaviour and character in fulfilling their needs and values is goal-directed and this puts them in an active role vis-a-vis their housing environment."**

The residents in intervening in their housing environment take into account their expected or desired level of behaviour and the environmental conditions in relation to what actually exists in their drive towards the fulfilment of their needs and values, i.e. they derive expectations. The estimation of their current situation in relation to their expectations is an indication of their satisfaction. If we recall from the literature review in the previous chapter, Campbell et al (1976) defined satisfaction as the perceived discrepancy between aspiration and achievement. Zimring (1982) referred to it as a process by which people attempt to achieve congruence between their needs and goals and what is provided by the social and physical environment. Their needs are hierarchical and once one need is satisfied at least to some degree another need emerges



(Maslow, 1973). The process is therefore ongoing. It is therefore reasonable to assume that :

**"The intervention by the residents of Kissy in their housing environment is an ongoing process resulting from the imbalance that exist between their expectations and the degree to which their housing environment fulfils these expectations."**

From the above two assumptions it is reasonable to put forward the following proposition that predicts the relationship between RS and HI:

**"The intervention by the residents of low-income housing in Kissy in their housing environment in order to fulfil their needs and values is an attempt to raise their level of satisfaction with their housing environment."**

From the above proposition we can deduce our main prediction regarding the relationship between RS and HI. This following prediction will therefore represent our main hypothesis:

#### **A.1 Residential satisfaction RS**

**"RS will be higher the more the residents of Kissy intervene in their housing environment to fulfil their needs and values."**

In the beginning of this chapter six areas relevant to this study were delineated as factors likely to influence household intervention. Each factor posed a specific research question and the various factors identified are as follows:

- Available resources AR
- Residential attachment RA
- Residents' Preferred housing HP
- Residents' Previous housing experience HE
- Housing management control HM
- Residents' Demographic characteristics DE

From these factors or variables the following predictions of their influence on HI are deduced. These predictions are put forward as the sub-hypotheses the study will address.

#### **A.2 Available resources**

**"The more financial, physical and social resources available to the residents the more they will intervene in their housing environment."**

**A.3 Residential attachment**

"The more the residents identify themselves with their housing the more they will intervene in it."

**A.4 Preferred housing**

"The residents will intervene less in their housing the more it matches their preferred housing."

**A.5 Previous housing experience**

"The more the residents present housing matches their learned expectations which are derived from their previous housing experience the more they will intervene in it."

**A.6 Housing management control**

"The more control the residents have over their housing the more they will intervene in it "

**B. Demographic characteristics**

The residents will intervene more in their housing to match their cultural norms and patterns of social interaction which are derived from their demographic characteristics.

This general demographic hypothesis constitutes sub-hypotheses derived from the demographic characteristics of interest mentioned earlier in the chapter which include; household density, the household size, household income, the age, occupation, and educational qualifications of the head of households. These hypotheses include:

**B.1 Household density**

"Residents of Kissy with higher household density will intervene more in their housing."

**B.2 Household size**

"Residents with larger household size will intervene more in their housing."

**B.3 Household income**

"The higher the income of the household the more the household will intervene in their housing."

**B.4 Educational qualification of head of household**

"The lower the educational qualification of the head of household the more the household will intervene in it."

**B.5 Age of head of household**

"The older the head of household the more the household has intervened in their housing."

**B.6 Occupation of head of household**

"Residents with lower occupational status will intervene more in their housing."

Another demographic characteristics identified earlier is the residential status of the household. The third set of hypotheses derived are based on these demographic characteristics, and include the following:

**Residential status**

- C1 "Residential satisfaction will be higher the more the residents intervene in their housing and this will be true for all residential status groups."
- C2 "Residents who are private owner occupiers will intervene more in their housing than renters."
- C3 "There will be no significant difference in the levels to which renters in private housing and renters in the public low-cost housing intervene in their housing."

Our fourth set of hypotheses are those related to the two aspects of intervention, i.e. improvements and maintenance. Both improvements and maintenance are quality bound. In other words, these activities are planned and purposefully executed in an attempt to maintain or improve the quality of the residents' housing. They are therefore goal-directed and as such residents who have carried out more improvements or maintenance will be expected to have a higher level of satisfaction with their housing than those who have carried out less improvements or maintenance. Our predictions relating to these two aspects of intervention are as follows:

**Improvements and maintenance**

- D1 "Residential satisfaction will be higher the more the residents improve or maintain their housing."
- D2 Residents who are owner occupiers will carry out more improvements in their homes than those who are renters.
- D3 There will be no significant difference between the improvement renters in private housing and renters in the public low-cost housing make to their homes.

- D4** Owner occupiers will carry out more maintenance in their homes than renters in both private and public housing.
- D5** There will be no significant difference between the levels of maintenance carried out by renters in private housing and renters in the public low-cost housing.
- D6** Residents will carry out more maintenance in their homes than improvements.

### **3.2 HOUSEHOLD INTERVENTION**

It is hypothesised in the previous section that RS (the dependent variable) will be higher the more the residents of Kisumu intervene in their housing in order to fulfil their needs and values. We will look at RS satisfaction later but for now let us deal with our independent variable - household intervention (HI). By household we mean a group of people who live regularly at the same address under the guidance and supervision of the head of household. Detail discussion of household and its head is presented in the next chapter. Intervention or the housing adjustment process by way of changes, additions, alterations, and maintenance undertaking by the household since moving into their dwelling unit will be considered in this study as household intervention, whether they are carried out because the dwelling was deteriorating or the household simply wanted to improve the condition of their dwelling unit and its surroundings.

In this study we have identified three types of interventions as related to residential satisfaction. Interventions by households can be either active, passive or balanced and each will be looked at separately in the following sections.

#### **Active intervention**

Intervention by the residents of Kisumu takes place when there is a misfit between the provisions of the residents' housing and their expectations. The satisfaction derived will also depend on the interplay between the residents' expectations and the degree to which the housing environment fulfils these expectations. The existence of this misfit is not a sufficient condition for satisfaction / dissatisfaction. In fact it is the reduction or removal of this misfit from which satisfaction is derived, as Morris and Winter (1978) pointed out that satisfaction with current housing is less related to the presence of specific features than it is to improvements or increase in those features. Improvement and/or increase in the features of the residents' housing environment are attempts to make compatible their expectations and their current housing environment and hence the reduction in the misfit.

This is one way the residents derive satisfaction from their housing environment, by improving or raising the quality of their housing to their expectations, and in terms of the dissonance theory, Festinger (1957), it represents the alterations in the residents' perception of the misfit by improving the characteristics of their housing. Another way implied in the theory is for the residents to alter their expectations whether this be normative or preferential. We will refer to this type of intervention as 'active intervention' as it represents a conscious attempt by the residents to make compatible their expectations and the provisions of their housing environment. Active is defined as "having the desired effect of" and since our concern is increased satisfaction, any attempt by the residents to minimise misfit and raise their level of satisfaction by changing something deficit into something better is an 'active intervention'.

### **Passive intervention**

If we look at the residents intervention as an attempt to make tolerant and deal passively with deficiencies in their housing environment, then their intervention will be a passive one. 'Passive intervention' always results in decreased satisfaction and comes about when the misfit between the provisions of the environment and the expectations of the residents widens. There are three possible ways in which this can result; when the expectations of the residents rise relative to a stable characteristics of their environment; decrease in the quality of the characteristics of their environment relative to stable expectations; or changes in both the expectations of the residents and the quality of the characteristics of their housing environment but at disproportionate rates. In these circumstances even though the households have intervened in their housing their RS will be low. The household intervention is therefore said to lag behind with the maintenance of their home, not to mention improving, the quality of their home. For a 'passive intervention' satisfaction will be expected to be low.

### **Balanced intervention**

There is another type of intervention which we will call 'balanced intervention'. This occurs when the residents' intervention is an attempt to keep their dwelling at an adequate level. If for instance the environmental characteristics deteriorate, increasing the misfit, residents' dissatisfaction will be expected. They will therefore intervene to restore their dwelling unit to its original state. What they are doing in effect is catching up with their maintenance. If such interventions are not possible they can opt to lower their expectations to contain the existing level of misfit. This has the effect of maintaining equilibrium with the environment, and therefore satisfaction will be expected to remain unchanged.

## Quantifying intervention

In the previous chapter we discussed the inadequacy of current approach in quantifying intervention which primarily ignores the households' values expressed through their willingness to intervene in their housing. One such method utilises the amount spent by households. There are two major problems associated with the use of this method. One is concerned with the difficulty of equating the expenditure of families who hire the work done and those who do it themselves. What is missing is the value of the households' labour. Thus a family may spend relatively little amount of money on improvements and maintenance yet the true cost may be higher. The value added to the dwelling may be the same for two dwellings and the actual cost may be vastly different. The second problem is that when one uses the criterion of money spent or the interventions that cost money, one runs the risk of eliminating interventions that are inexpensive or even free of cost but nonetheless are important. The most common of such interventions is the change of use of space, e.g. converting a room from one purpose to another by changing its furniture arrangements.

The cost approach has been based on the willingness of the families to pay for the interventions. For this to happen, their need for that particular intervention must be aroused to a level that will justify any economic undertaking, and should be within the family's economic means. The use of this approach presupposes that the economic value of an intervention is related to what we refer to as the perceived use value of that intervention. But if this is so then the willingness of the families to pay for their interventions, their ability to do so, and more so their expenditure priorities must all be taken into account, so that the higher the economic value of the intervention the higher will be its perceived use value.

By simply determining the cost of an intervention in relation to the household's income may seem attractive. This approach will present difficulties. First, how accurately can one determine the household's income particularly in developing countries when the continuity and security of primary sources of income are not guaranteed. Also as primary sources of income are in most cases inadequate, households rely on secondary sources of income which are irregular and most families are reluctant to or cannot provide such information. Second, to estimate the cost of an intervention may present difficulties especially in some cases where records are not kept. Findings, for example, Rakodi (1989), that the willingness to pay for several quality measures is quite responsive to income and increases as income increases, but at less than proportionate rate; and that the willingness to pay for additional living spaces declines as household size increases, raise questions that need to be answered if such an method is to be adopted. The method also tends to eliminate interventions that do not cost money.

Determining the cost of an intervention in relation to the household's income in an attempt to derive a measure will not only be difficult but will give misleading results. This approach is also not an adequate measure of the household's disposition to undertake an intervention nor does it provide an adequate measure of the value of an intervention. What is needed is to operationalize intervention such that indicators are delineated that will provide basis for the development of a measure that is responsive to the value of the intervention and the disposition of the household in undertaking the interventions. In this regard it is necessary to make a distinction between the value of an intervention and the household's values in undertaking such intervention. The former will be referred to in this study as the 'perceived use value' of the intervention as it is subjective rather than normative, which we will define as the ability of the intervention to confer benefit to the household undertaking it. The latter, we will refer to as the disposition of the household to devote its resources in carrying out the intervention. The aim is not to establish a relationship between these two value systems but that in assessing an intervention both values must be taken into consideration if we are to gain anything like a true measure that reflects the overall attributes of the intervention.

The fundamental assumption on which this technique is based is that there is a hierarchy of needs in housing (Maslow, 1973) and that once the basic needs for shelter and safety are met up to a certain point, people will start to intervene in their housing as a means of self-expression (Cooper, 1975 & Rainwater, 1966). One would be tempted to look deeper into the underlying aspects of human action, what motivates the individual to intervene in his housing environment. The central concern of this study prevent us from further involvement as far as the underlying psychological aspects of human actions are concerned. However, most Psychologists describe the goal-directed nature of human behaviour in terms of motives, desires, and drives, and to avoid confusion we shall refer to all such inferred inner states that are capable of initiating and directing human actions in ways and towards ends that will eventually satisfy the individual as "needs".

Before the household carries out an intervention in their housing, the need for that intervention must be present. This, however, in itself is not a sufficient condition to initiate and direct their actions. Ittelson et al (1974) have pointed out that other factors must be considered in addition to the existence of the need before the individual can act in certain way. The factors identified were; the need must be aroused and this may result from factors within the individual or from events in the environment. Secondly, there must be an appropriate goal-object. Thirdly, the value of the goal-object must be considered, and lastly, the individual's perception of the possibility of success in achieving the goal-object. These aspects are value saturated and therefore can be viewed

in terms of the distinction between the two value components made earlier, i.e., the disposition of the individual to devote his resources in certain ways, and the ability of the intervention to confer benefit to the individual which we called its perceived use value.

The dimension of 'importance' will be adopted in this study in the measure of the perceived use value of the intervention, while the 'expensive' dimension will be adopted in the measure of the household's disposition to undertake the intervention. The measure of each intervention will be based on the partial evaluation of each intervention activity and a summation derived. The evaluation of each intervention activity will provide the opportunity not only to be able to quantify the total interventions carried out by a household, but will also give us ideas of which types of interventions and why they were carried out.

The 'importance' and 'expensive' measures that will be developed are based on responses that are self-weighting in that the subject will consider the salient attributes, weigh them in their minds, and report the overall importance of the intervention and how expensive it was to the household. The use of this self-weighting approach by subjects involves a dynamic, emotional and cognitive process requiring the continuous weighting of all the imports of the attribute in question and balancing them to achieve what Michelson (1976) termed mental and experiential congruence. Self-weighting schemes which are internal and implicit are preferred to the external weighting schemes which require the investigator to develop common criteria to be used by all respondents.

### **Improvement and maintenance**

In the last chapter we mentioned the need to distinguish between maintenance and improvements and that if research into the intervention by low-income families in their housing, by way of maintaining and improving the quality of their housing, is to aid public policy making and programme planning and implementation then both aspects of the residents' intervention should be looked at. To make a distinction between maintenance and improvements can be difficult for example: when is painting a maintenance activity and when is it an improvement? However, the conceptual differences are relatively clear even though there could be a great overlap. Winger (1973) maintained that the purpose of the study should ascertain the factors associated with maintenance and improvement. If for e.g. the study is concerned with investment decisions made by home owners then it is important to consider all activities because even routine maintenance can be regarded as investment activity in that the quality of the dwelling is maintained or improved.



The studies carried out by Shonrock (1975), and Meek & Fairbaugh (1974) in assessing factors associated with using family labour versus hiring the work done did examine all maintenance and improvement activities.

Morris & Winter (1978) have distinguished between maintenance and improvement activities based on two orientations. The activity can be either dwelling-oriented or household-oriented. In the dwelling orientation, improvements included all activities that increase the size and quality of the dwelling beyond its original size and quality. All activities that maintain or restore the dwelling to its original condition are considered as maintenance activities. For household orientation, improvements include all activities that increase the size and quality of the dwelling beyond its condition when the household first moved in. Maintenance include all activities that maintain or restore the dwelling to its original condition when the household first moved in.

We find the household-oriented distinction as presented above appropriate for this study for the following reasons:

- a) The purpose of the study does not include the determination of the original condition of the dwellings.
- b) The study is household-oriented and is concerned with assessing the relevant factors that facilitate or inhibit households intervention in their housing.

This approach for classifying interventions as either maintenance or improvement activity will be adopted in this study.

### 3.3 HOUSING MANAGEMENT CONTROL

It is hypothesised that the more control the residents have over their housing they more they will intervene in it. Four indicators were identified under this variable which the study will address. They are:

- Perceived interference of housing rules
- Household privacy
- Household control of their housing
- Security of tenure

Housing rules are the formal and informal rules that govern the living in the family's home. The rules can be those imposed by the landlord or building codes and practices as laid down by the Freetown Improvement Act (1961). The rules imposed by landlords may be fixed and apply equally to a group of households as in the case of the public low-cost housing where the households have the same landlord, or may vary as

in the case of private renters who have different landlords. The rules laid down in the Freetown Improvement Act (1961) as implemented by the Ministry of Housing and the Environment are fixed and apply equally to all households of Kissy. These rules themselves do not constitute the indicator we are concerned here with. The indicator in question is the perceived interference of the rules in the management and control of the family's housing. Even if the rules are fixed the perceived interference of the rules will vary from household to household depending on their socio-economic conditions and life-style patterns.

Management rules and policies are necessary. The importance of such rules has been pointed out by Cooper (1975) in terms of tenant selection, crime rates, and general upkeep and cleanliness of the developments she studied. She pointed out that rules are important particularly to public housing tenants because they see themselves as having relatively little choice in moving to another affordable but adequate housing, therefore they need rules to make life as comfortable as possible. Although rules are necessary particularly for renters, they should be flexible enough so that the residents feel they have control over how they use and personalise their dwelling. The rules should also have minimal interference in the residents lives and should not prevent them from intervening in their housing to meet their needs and values.

The importance of privacy related elements in housing has been of concern to many researchers (Cooper, 1975; Becker, 1977; Michelson, 1977), and to different professions; Lawyers, Psychologists, Architects, Sociologists, and others. Our concern with privacy as far this study is concerned is in relation to housing and the control and choices individuals exercise to achieve the desired privacy.

Before going any further, let us examine some of the definitions of privacy that have been put forward that we may be able to delineate the concept as it applies to the control residents have in their housing in achieving the desired privacy. Different authors have come up with different definitions, and some emphasise its exclusionary and withdrawal aspects, for example :

"..... a person's feeling that others should be excluded from something which is of concern to him, and also recognition that others have a right to do this".

(Altman, 1975 pp17)

"A value to be by oneself -- relief from the pressures of the presence of others "

(Altman 1975, pp17)

These definitions highlight the importance of privacy in the self maintenance functions. The following definitions expand the notion of self-function to emphasise the opening and closing of oneself to others and freedom of choice in allowing access to the self. For example :

".....obtaining freedom of choice or option to achieve goals in order to control what and to whom information about oneself is communicated"

(Ittelson, Proshansky & Rivlin, 1970. In Altman, 1975 pp17)

"The right of the individual to decide what information about himself should be communicated to others and under what conditions"

(Westin, 1970. In Altman, 1975 pp17)

These definitions focus on two important aspects of privacy -withdrawal and information management. Housing is related to both these aspects in that it allows for more or less seclusion and control over interaction as well as control and choice of access to the self depending on the building size, location, spatial configuration, and its social characteristics. Therefore the definition that suits this study is one that considers the control and choice of individuals in regulating interaction and the flow of communication to others. Such a definition is put forward by Altman (1975 pp18) as:

"Privacy is selective control of access to the self or to one's group"

A very important word in this definition, in terms of housing is "control". A housing environment which excessively limits control of access to self, forces the individual to adapt his behaviour in order to achieve the desired amount of interaction or seclusion (Goffman, 1961)

When people can, they plan their moves to acquire privacy related features in their housing such as more interior spaces and yards. Studies have found that residents value having convenient structural features as fenced yards and extra rooms that are found in single unattached homes which make it easy to control access to the self. This enables them to withdraw from interaction, protect personal possessions, and limit information about self or group that would otherwise be known to others (Cooper, 1975). Cooper studied a low-income development of single unit attached apartments, each having its own front and back yard. She found that some residents liked the privacy related features of the housing even though they had many complaints about other things. They could use fenced-in back yards to control children's play, to keep out unwanted visitors, as well as use the yards for family activities. Front yards allowed personalization such as plantings which not only gave message about the occupant, but also served to delineate the residents' territory even though the yards were not fenced.

The desire for privacy was a major finding of the Michelson (1977) study of residential satisfaction in Toronto. He found out that the housing ideal for most of his respondents was the single unit detached house and the reason most often cited was the opportunity for privacy. Becker (1977) reports similar findings in a New York study of multi-family dwellings. He suggests that the closer a house is to the "ideal" single house, and the more boundary control there is, the more likely the tenants are to be satisfied. Clearly then, housing designs vary in the extent to which they provide opportunities for control over interaction, hence provide a greater or lesser degree of privacy.

In the expansion of the concept of privacy, Proshansky et al (1970) emphasised the role of choice in privacy in that it allows the person to set and achieve goals. Housing research explicitly and implicitly deals with these concepts of control and choice. The importance of privacy in relation to the self suggests that housing plays a critical role in two ways. First, its physical characteristics determine the degree of control over internal and external boundaries. If these characteristics are inadequate residents may intervene to enhance their control, e.g. planting hedges or fencing their yards, providing curtains in doorways as some low-income families do in Kisumu to minimise visual intrusion. Second, its social characteristics and milieu are associated with and influence information management and boundary control and marking. For example, Cooper (1975) found that in apartment buildings, people do not personalise the external spaces of their buildings to the same degree as do residents of single houses. It follows then, that residents will intervene in their housing which provides less support for boundary control for the self and one's group.

### 3.4 AVAILABLE RESOURCES

It is hypothesised that the residents will intervene more in their housing to meet their needs and values the more physical, social and financial resources they have at their disposal.

Between half and three-quarters of all new homes in most Third World cities are built by low-income families. When they have access to available resources and are free to use them in their own ways, people and their communities can build up to five times more than their governments with the same funds, and to similar or even better standards, Turner (1987). Implicit in this statement is the belief in the ability of the average family to fashion their own dwelling, to achieve and sustain feelings of personal dignity, and it allows the family to perform all daily functions in accordance with its rising aspirations, and makes the family feel the dwelling to be theirs.

Whether the dwelling is owner occupied or rented the need for the family to intervene in it to fulfil their needs and values does exist. Financial, social and physical resources should therefore be available to them in order to effect their intervention. The indicators in this variable are grouped under above three attributes, financial, social and physical resources. Under financial resources, household income from which savings can be generated to finance their intervention are in most cases primary sources of finance. Family income has been identified as the single best predictor of the amount spent on housing (Roistacher, 1974). The same author pointed out that as income increases, the amount spent on housing also increases, but at a disproportionate rate. There seem to be agreement between his findings and those mentioned earlier. Others (Smith et al, 1963) have pointed out that it is the increase in income or even an expected increase in income that propels the household to intervene in their housing.

Other sources of finance also include those borrowed from relatives / friends or institutions in addition to those obtained from personal saving. For low-income families there is a limit to which they can finance their interventions from their personal savings derived primarily from their income. Beyond this limit most households use two or more sources of finance (Nutt et al ,1976).

The residents interact with each other and in the process develop organised structure that do not only safeguards their right to, but also facilitates their intervention in their housing. They also assist each other by either providing materials, labour, finance or moral support. Interaction between landlord and tenants is also part of the social resource network available to residents. Landlords may in some cases provide materials, labour, financial assistance or even logistic support to his tenants to intervene as he stands to gain in the maintenance and improvement of the quality of his dwelling.

Industrialisation, urbanisation and increasing standards of living have caused exponential rises in the importation of building materials and western technologies at a time when Sierra Leone can hardly meet internal demands. Building materials have not only increased in price but have become scarce due to the lack of foreign exchange. Increases in the prices of local building materials have also resulted from higher inflationary rates. All these factors tend to impose constraints on families in securing building materials which they need for their intervention. Labour has also become expensive due to shortages in skilled labour especially in the use of new products mostly imported. The physical condition of the family's dwelling can also be considered as a physical resource.

When the availability of these resources become a heavy burden on the household they may resort to other measures. For example, higher prices of imported materials may

lead most households to look for alternative materials that are cheaper and locally available, or households may want to reduce the cash outlay on their interventions by undertaking themselves some or all of the work involved. The indicators that will be considered under this variable are:

- Financial constraints on the residents' intervention
- The difficulty of obtaining finance
- The difficulty of obtaining labour
- The difficulty of obtaining building materials
- Social resources : help received from neighbours

### 3.5 RESIDENTIAL ATTACHMENT

It is hypothesised that the more the residents identify themselves with their housing the more they will intervene in it. In regard to this, most residents of Kissy have exercised considerable care and attention to their dwelling by undertaking maintenance and improvements undaunted by the physical limitations of the immediate neighbourhood. These low-income families attach significance to the social and personal satisfaction they derive from their housing. They consider their dwelling unit as a connected part of their entire residential context. Hartman (1972) in his study of low-income residential suburb in Boston, USA, pointed out that a number of factors strongly suggesting that the feelings expressed by inhabitants about the area as a whole markedly influenced attitudes towards their apartments. Fried (1961) also mentioned several studies that pointed to the deep attachment many slum dwellers develop for their homes and neighbourhoods.

Such residential attachment and the significance of housing attitudes can be attributed to factors such as kinship, extended family, feelings of belonging to the neighbourhood (Hartman, 1972). Under such circumstances, Hartman further pointed to the inevitability of the emergence of conflict between the desire to retain the critical features of life-style, personal meaning and continuity of the neighbourhood, and the desire for physical housing quality, whether based on the intrinsic significance of good dwelling or status aspiration related to housing.

Fried and Gleicher (1970) have noted the difference in space use between urban working class and their middle class counterparts. The former regard doorways and streets of their neighbourhood as extensions of their homes, and they use them as areas for social interaction, windows for communicating with their neighbours. On the other hand their counterparts are more apt to use the streets and public areas of their buildings as paths to and from someplace and they have a different sense of belonging or ownership of their neighbourhoods.

When social interaction does not support people's needs and preferred life-style, they will likely be dissatisfied with their housing (Becker, 1977; Cooper, 1972; Rent & Rent, 1978) even when the material aspects of their housing appears to be adequate (Hollingshead & Rogler, 1963) and they will move when they can (Michelson, 1977; Rossi, 1955) or adapt the dwelling unit (Nutt et al, 1972; Morris & Winter, 1978).

This idea is supported by Hartman (1972) when he pointed out that the experience of social and personal satisfaction in the local area of Boston, he studied, markedly limits the effect of objective housing qualities on attitudes towards their apartments. Only in the absence of these meaningful experiences does the objective physical qualities of their dwelling become an important determinant of housing satisfaction. Gans (1962) also dealt with this idea when he observed that residents of the West End, a low-income neighbourhood in Boston, were satisfied with their housing because it allowed them to control and achieve desired amount of interaction with others. For example, the existence of kinship/friendship networks provided opportunities for mutual assistance and socialising; though the apartments were small, the residents managed through various means to use them for entertaining. They also use the streets and doorways as social gatherings and windows for social contacts. The point is that this neighbourhood and the configuration of its housing supported people's needs for interaction. Indeed, when the demands for urban renewal forced people to move away from the West End, many persons experienced a grief reaction not unlike that suffered at the death of a loved one (Fried, 1972). Similarly, in an earlier study, Young & Willmott (1957) found that when residents of a London slum were relocated to the suburbs, they often missed the interaction that close-by kinship/friendship network provided.

So far what we have seen is that people do not live in houses alone especially low-income families but the outside is considered as an extension of their homes which they extensively use for social interaction. During this interaction they establish social relations from which residential attachment is derived. Under these circumstances, the evaluation of their dwellings and neighbourhoods is likely to be influenced by the sense of satisfaction of and meaning they attach to the total housing environment, characteristic of their values and life-style patterns. The indicators that will be considered under this variable are:

- a) Kinship/friendship
- b) Duration of residence
  - Length of stay in Kissy neighbourhood
  - Length of stay in present home.
- c) Neighbourliness
  - Verbal interaction with neighbours
  - Awareness of neighbours' presence

The indicator, duration of residence, has been viewed (Morrison, 1967) as an index of increasing integration into the local area. Spear (1974) suggests the relationship occurs because satisfaction increases over time with an increase in the number of friendships in the area and with familiarity with commercial and community facilities. He also found that duration of residence was related to mobility but not with the propensity to move. Residential mobility in this context is defined as the process by which families adjust their housing to the housing needs that are generated by shifts in family composition that accompany life-cycle changes (Rossi, 1955). McAllister et al (1973) found that the amount of local visiting was high immediately a family has moved into an area. It subsequently dropped but rose slowly thereafter with rising duration of residence. Such findings offer moderate support for Morrison's assumption over the longer span but not for the shorter duration's of residence.

Morris & Winter (1978) pointed out that duration per se does not appear to influence satisfaction. Rather, high levels of satisfaction produce long duration of residence as dissatisfied families are likely to move quickly and satisfied families to remain. This finding contradicts those by Spear (1974), Morrison (1967), and Myers et al (1967) where the direction of causation is the reverse. This causal aspect of duration of residence and satisfaction will be relegated to the purlieus of this study. It suffice to note that there exists a relationship between duration of residence and residential satisfaction and the longer the duration of residence the more the residents would have intervened in their housing to derive satisfaction.

In this study we will deal with kinship / friendship and neighbourliness as distinct concepts. The failure to draw this distinction in many studies that have been carried out has been part of the reason for the confusion that constitute the definition of neighbourhood, Keller (1972). In attempting to explain the reasons for this confusion, Keller pointed out that ignoring the conceptual distinction between friend and neighbour has led to unwarranted inference about the alienation of modern urban man and to unwarranted idealisation of friendly neighbours in small towns and peasant villages. She further pointed out that if most neighbouring relations are in fact not relations of friendship, then to ask only about those that are, make us miss the large majority that are not.

### 3.6 PREFERRED HOUSING

It was predicted that the residents of low-income housing of Kissy will intervene less the more their present housing matches their preferred housing. The indicators identified to represent the match between the residents' present homes and their



preferred homes are those of house type, house size in terms of the number of habitable rooms and the height of the building in which the dwelling is located.

Preferred housing may be discovered by testimony or direct observation. This approach has been employed in previous studies (Tremblay, 1981 and Williams, 1959), as the wants and needs of their subjects are assumed to be derived from cultural standards against which actual housing conditions are judged (Morris and Winter, 1975). In the United States for example, the housing desired by the people have been studied in great depth and a good deal amount of literature is available on the subject. But housing preference per se has limited application in studies related to household intervention and residential satisfaction unless it has bases for comparison, such as normative housing. The method usually adopted is to match the family's preferred housing with that generally accepted by Americans (Johnson, 1984). Morris and Winter (1975) for example, have described how norms create a housing deficit: "housing adjustment behaviour will tend to occur when the family's housing deviates far enough from the norms to significantly reduce housing satisfaction". Three types of housing adjustment behaviours were described; 1) mobility, which refers to family moves brought about by a desire for a different living quarters within a single labour and housing market as opposed to long-distance moves brought about as a result of changing economic and labour needs; 2) family adjustments such as child-bearing or asking adult members to seek other housing, even though may not be perceived as housing adjustment have an impact on housing needs; 3) residential adaptation (household intervention) which include remodelling, rehabilitation, building additions, and other structural changes in the house itself. This aspect has attracted the attention of many researchers (Guthrie and Barclay, 1982).

The paucity of information and the lack of research into normative housing standards in Sierra Leone makes it extremely difficult if not impossible to use normative standards in determining the impact of housing preference on the attitude of households as regards their intervention in their housing. It is partly for this reason that we propose to match direct the residents' preferred housing with their present housing rather than translating the impact of this operational factor through normative housing standards. This approach will also enable us to assess the impact of the residents' preferred housing on household intervention in terms of their current housing, with which the current study is concerned.

### 3.7 PREVIOUS HOUSING EXPERIENCE

It was predicted that household intervention by the residents of low-income housing in Kissy will be higher when their present housing matches their learned expectations which are derived from their previous housing experience.

Research in this area has mainly concentrated on the relationship between previous housing experience and residential satisfaction, and is not strong and definitive. If we are to gain an understanding of the impact of previous housing experience on intervention of low-income households in their housing in an attempt to improve its quality studies have to be devoted to this end. Some studies have tried to establish whether there is any significant relationship between previous housing experience and residential satisfaction (Onibokun, 1976; Johnson, 1984; Rent and Rent, 1978). Johnson concluded from her study of a low-income housing development in the United States that residential history did not predict residential satisfaction. In her study residential history was determined by the respondent's childhood home and she attributed the non-existence of a relationship to the different sets of circumstances from which adults and children derive residential satisfaction. Onibokun also found that whether a person came from a rural or urban background had no significant association with the residents satisfaction with the public housing development he studied in Canada.

Rent and Rent (1978) in their study of low-income housing in the United States isolated two main indicators of previous housing experience as the length of stay in previous neighbourhood and the comparison between present and past housing payments to determine their relationship with residential satisfaction. They found that the length of stay of the residents they studied in their previous neighbourhood had no significant relationship with their satisfaction with their present housing. They also reported that they found no significant relationship between housing satisfaction and a comparison of present and past housing payments.

The indicators of previous housing experience adopted in this study are those that reflect the characteristics of the residents previous house and neighbourhood as matched against the same characteristics of their present house and neighbourhood. The indicators are those of:

- Quality of the dwelling unit
- House type, whether it is a detached, semi-detached, flat etc.
- Household size in terms of the number of occupants
- Size of the dwelling in terms of the number of habitable rooms
- Location of the home whether it is in a city town or village

The relationship between household intervention and the match between the respondents present and previous housing in terms of these indicators in combination will be determined. It is predicted that those households whose present housing matches their previous housing will intervene more in their present housing.

### 3.8 DEMOGRAPHIC CHARACTERISTICS

We hypothesised that residents of low-income housing in Kissy will intervene more in their housing to match their cultural norms and patterns of social interaction which are derived from their demographic characteristics. Various characteristics have been considered in previous studies to constitute demographic factors relevant to the researchers studies. Campbell (1981) has pointed out that the demographic characteristics of interest in housing research are those which reflect personal characteristics and past experiences. These include age, sex, marital status, occupation, education, income, stage in family life cycle, social and professional membership, ethnic background, and ownership status of the respondent and the respondent's spouse. Onibokun's (1976) study carried out in Canada identified seventeen social system variables which he grouped under five categories: stage in family life cycle, socio-economic status, familiarity with neighbourhood, life style and self-concept.

Greninger (1974) identified the following personal characteristics of interest in housing research; age, marital status, sex, education, occupation, income, social class, family life cycle stage, familial and social interaction, community participation, perceptions and values. These characteristics together define life style as "a series of relationships which link social phenomena to the physical environment (Michelson ,1976).

There does not seem to be any consensus as to the set of demographic characteristics in wide-spread use. The choice of any set of demographic characteristics is highly influenced by the research questions the study seeks to address. Most research in housing utilising these characteristics have centred around their relationships with residential satisfaction or housing aspirations. Montgomery (1973) studied the housing aspirations of Southern Appalachian families and reported that higher incomes, education and a high level of material well-being lead to preferences for a modern suburban dwelling as opposed to a traditional mountain dwelling. Zey-Ferrel (1977) found that home ownership, wife's educational level were positively related to residing in more adequate housing and to having certain long-term consumption preferences such as saving accounts. In contrast, renters with lower educational level had less adequate housing and preferences for short-term consumption patterns, such as buying clothes and cars.

Harris (1976) found that if quality of housing were held constant, satisfaction increased with head of household income and education; marital status, race, and sex were not significantly related to satisfaction. Because the housing of less educated and lower income groups is frequently of considerably lower quality than the average, it has been hypothesised that these groups have different housing aspirations (Rossi, 1955; Wirth,

1947), or different housing values (Gans, 1962). Morris and Winter (1976) in a study of blue-collar and white-collar workers found that both groups have about the same general housing aspirations, and ownership rate for both groups tended to rise with income and education. They concluded from this study that housing norms and preferences are different for the groups, but that achieved housing resulted from housing constraints on the residents. The findings of Hartman (1963) also support this view.

Increased in household size was found to lead to decreased housing satisfaction (Onibokun, 1976) particularly among renters (Meek et al, 1977). Rent and Rent (1978) and Lane and Kinsey (1980) have all reported strong relationship between housing satisfaction and ownership of a single family dwelling. However, Rent and Rent pointed out that either owning a single dwelling or simply residing in a single-family dwelling could also lead to higher satisfaction. Brink and Johnston (1979) found high correlation between home ownership, housing satisfaction and total cost of the unit. Morris and Winter (1978) pointed out that only age and income had independent influence on housing satisfaction, and that the apparent effect of age may be due to neighbourhood satisfaction that produces long duration of residence. This effect was found to be high among the elderly who have relatively low income. Housing satisfaction among lower-income elderly people is probably the outcome of acquisition of a single family dwelling at younger ages (Abdel-Ghany, 1977 and Campbell et al, 1981).

In a study carried out in Nigeria, Omotosho (1985) found that tenure was strongly related to housing satisfaction, in which there is tendency for owner occupiers to be more satisfied with their housing than renters. No significant difference was detected in housing satisfaction between residents of public low-income housing projects and their private low-income counterparts. Similarly, for residents of public middle-income housing projects and their public middle-income counterparts.

We can conclude from the various studies outlined so far that ownership of a single family dwelling generally increases housing satisfaction. Housing satisfaction generally increases with age, while large family size, low income, and low education generally depresses satisfaction. These studies deal with the relationships between certain demographic characteristics of the respondents and the satisfaction they derive from their housing. The objective of this study however, is to try and establish whether there are significant associations between these demographic characteristics of the residents of low-income housing in Kissy and their intervention in their housing, and how this relate to the satisfaction they derive from their housing. Unfortunately, research of a scanty nature concerned with this aspect have been carried out. Morris and Winter

(1978) pointed out that studies in this area are inconclusive and the results and interpretations are perhaps best viewed as hypotheses, rather than fully tested relationships.

The demographic characteristics of the respondents that are included in this study are those that reflect the personal characteristics of the head of household and the household itself and include:

- Household size : Number of occupants in the respondent's home
- Household density : Number of occupants per habitable room in R's home
- Household income: Monthly income of all working members of the household
- Age of the head of the household
- Educational qualification of the head of household
- Occupational status of the head of household.

The demographic characteristic that has received considerable attention as it relates to household interventions is the age of the head of household. It has been reported that alterations and additions decline with age (Harris, 1976; Winger, 1973). Meeks et al (1974) reported a positive relationship between age and maintenance activities, but a negative relationship between age and improvements. Some studies proposed a curvilinear relationship between age and alteration activities (Winger, 1973; Yockey, 197 and Cowles et al, 1947). Cowles et al also maintained that it is rising income that facilitates alterations and additions primarily to overcome deficits, because rising income produces rising quality norms. Winger (1973) found that expenditures on maintenance and upkeep were positively related to income. In contrast, Bross (1975) found no relationship between income and the amount spent on either additions and renovations or alterations and improvements. Beyer (1952) on the other hand found income to be positively related to improvements but not to maintenance. While Shounrock (1975) pointed to a curvilinear relationship between socio-economic status and alterations, and that middle-class families were more likely to indicate a higher number of improvement activities than either lower- or upper-class groups. Yockey (1976) found the reverse between education and planning additions and alterations, and that families in which the head had a low or high level of education were more likely to be planning alterations or additions than families headed by an individual with a moderate amount of education.

The inconsistencies in these research findings echo what was earlier said about the inconclusive nature of research in this area. However, there seems to be some consensus about the relationship between ownership status and residential alteration and addition behaviour. Morris and Winter (1978) found that owners engage in higher

rates of residential alterations and additions, while renters had a much higher rate of residential mobility than owners.

Additions were found to relate to increases in household size (Bross and Morris, 1974). The connection between decreased family size and alterations has been associated with moderate-income families who put off home improvements until the children were all gone because they could not afford it earlier (Morris and Winter, 1978). They also found that families who are crowded, are renters and would prefer ownership, or who live in apartments and would rather have a single-family structure tend to move to a new dwelling.

The socio-economic conditions in Sierra Leone are quite different from those of the United States where most of these studies were conducted, the results when applied to the former may not be appropriate. Age, for example, has been shown to be positively related to intervention. This is mainly due to the decrease in household size as a result of children finding alternative housing. Extended family structure in Sierra Leone with children staying much longer with parents and in most cases looking after the aged, renders this situation particularly knotty. Income of the head of household may even decrease with age, while household income may increase as children grow up to become wage earners. Home ownership may point in the same direction as the results indicate above, i.e. having a positive relationship with household intervention. However, it is worth noting that housing in most cases are hard to come by and this may impose constraints on the ability of renters to move into alternative housing of their choice. In which case they may accept the fact and intervene in their present housing in order to raise their level of satisfaction. In the event of a secured tenancy, renters may engage considerably in household intervention.

Our assertions previously stated under demographic characteristics have been derived in view of the above discussion taking into consideration the situation in Freetown as in most cities in the developing world. These assertions together with the others have been coined primarily from theory. Going beyond theory we intend to test these assertions empirically. The following chapter will therefore deal with the methodological aspects of the investigation in which attempt will be made to derive methods and techniques in measuring these variables to be used in testing the hypotheses empirically.

## CHAPTER 4

### RESEARCH STRATEGY

#### 4.0 INTRODUCTION

The main concern of the study is with the interventions residents of Kisumu have already made in their housing. The study has tried to distinguish between two aspects of 'household intervention' in urban upgrading programme, interventions planned but not carried out and interventions already done. For such programmes to be successful it is necessary to discern the preferred wishes of the residents, what, how and why they wish to carry out these interventions. Once these planned wishes have been identified they must be put into practice. This will require past experiences about what, how and why previous interventions were carried out, particularly on the basis of personal initiatives. The study is concerned with the latter aspect and hope that much will be learnt from it that will help plan future programmes.

The assertion that the relationship between household intervention and residential satisfaction is positive was presented in chapter 3. This assertion was culled primarily from theory. Moving beyond the realms of theory the remainder of the study seeks to reinforce this argument with empirical evidence. This chapter will discuss the process and strategy employed in the accomplishment of this task.

The search for answers to the research questions has proceeded through four different but overlapping phases as presented in chapter one. The first section of this chapter discusses the research design. Sections two and three deal with the site of the study, and the population and its characteristics respectively. The sample and sampling strategy are discussed in section four, while section five discusses the variables in the hypotheses and their measures. The research technique and data collection procedures are dealt with in section six. The chapter ends with section seven which discusses the different techniques employed in the analysis of the data collected.

#### 4.1 RESEARCH DESIGN

A variety of research methods are in current use from which an interested researcher can choose. The choice of any particular method depends on many factors the most important being the central research question(s) the research seeks to address although

there have been suggestions about the superiority of one method over the other (Becker et al, 1957). This view has however met strong opposition. Trow (1957) maintains that it is not a question of the general and inherent superiority of one method over the other, on the basis of some intrinsic qualities it presumably possesses, but that different kinds of information about man and society are best gathered in different ways, and that the research problem under investigation properly dictates the methods of investigation.

The present study is concerned with isolating variables within the conceptual framework of household intervention that are correlates of residential satisfaction in low-income housing in transitional societies such as Sierra Leone. Dealing with such phenomena at such level of complexity would however, demand forms of conceptualisation and methods of analysis whereby details of individual experience and the way they construe their environment would seem to have little bearing on the overall correlation ( Wohlwill and Carson, 1972). The correlation design was therefore adopted in this study in light of the above concern. Two other important factors apart from the central concern of the study have influenced the choice of the design, budget and time constraints all typical of such dissertation research. These constraints preclude the possibility for repeated observations or longitudinal study to be carried out even though they may be desired.

The cross-sectional design was found to be appropriate under the prevailing circumstances. This method typical of all social - research methods tend to approximate to the logic of experimental design (Stouffer, 1950) and also has its weaknesses. One major weakness associated with this method has to do with its inability to control the effects of extraneous factors that may account for variations between different groups. This problem is however remediable through statistical control techniques, such as partial correlation, and standardisation (Labovitz and Lagedorn, 1981 :49).

## 4.2 SITE OF STUDY

Freetown the capital city of Sierra Leone was selected for this study. Freetown is a densely populated centre with an average population growth rate of 4.95% whilst housing supply particularly for the low-income group lags considerably behind (Wage, 1986). As we saw in previous chapters, housing need in Freetown is very high, primarily the need for more space per household, improved quality of the housing stock, improved services, and improved access to new and better housing.

Freetown dominates the urban-shelter problem and has been the focus of the implementation of urban housing programmes. Freetown was therefore selected for



this study as it reflects diverse housing characteristics and is also the major centre for economic, social and political activities in the country. Kissy an area in the eastern part of Freetown is where the study was carried out and has been the focus of government low-cost housing development schemes in a predominantly low-income private housing area. This presented the opportunity to carryout a cross-sectional study of low-income housing for both public and private sectors.

The characteristics of low-income housing in Freetown tends to be uniform. Considering the nature of the research and the in-depth study of household intervention and the residential satisfaction derived, tight budget and time limitation typical of such dissertation research, means that a cross-sectional study of low-income housing through out Freetown, even if desired, was impractical. It was therefore advisable to select an area, Kissy in this case, for an in-depth study to be carried out.

#### 4.3 POPULATION OF THE STUDY AND ITS CHARACTERISTICS

The main subjects under investigation are the low-income households in the Kissy area, and will comprise both their dwelling units and their immediate neighbourhoods. The study takes a cross-sectional view of three areas ; public low-income housing units, private low-income owner occupied housing units, and private low-income rented housing units. The first of this group is homogeneous in character while the other two are heterogeneous.

The study has deliberately excluded middle and high-income housing units. The attempt to do so is not to trivialise the role of such units in housing in Freetown. Rather, by electing to deal with low-income housing exclusively, the central concern of the study, the researcher has addressed the main issues that responds to the housing needs for the majority of the people in Freetown - low-income families.

The population comprises the heads of households and in defining this group it was recognised that the group must reflect different background, age, sex, experience, and personality. Before considering who the head of household is it is necessary to define household. The 'catering rule' in population census which is widely applied define household as a group of people who live regularly at the same address and who are all catered for by the same person (Hoinville, 1978). By this definition all those who live regularly at the same address but cater for themselves separately are considered as separate households. In Sierra Leone as in most other developing countries, extended family structure is a common and accepted phenomenon. The household may comprise various core families all related and cater for themselves separately but under the guidance and supervision of one member of the extended family. All interventions by

the household in their housing unit are carried out with the approval, guidance and supervision of that person. We therefore have to define household and the head of the household according to rules that can be uniformly applied taking into consideration the households' intervention in their housing units. We will define household as a group of people who live regularly at the same address under the guidance and supervision of a head of household. The latter we will define as the person who owns or is responsible for paying the rent, or holds the tenancy by virtue of a job or other reason. Under this definition the rule of precedence is central; a husband is head of the household even when the wife is legally responsible for paying the rent, and if two members of the same sex fulfil the various requirements equally, age will be the deciding factor.

The definition of the target population will include the need for the household to have lived in their dwelling unit for at least two years. The reasons for introducing this criterion in the selection of households to be studied are :

1. Less than two years might not be enough to realise the advantages and disadvantages of the new home, i.e. the evaluation of their housing would reflect their familiarity, Lawton (1974). Familial stimuli associated with adaptation are less complex than novel ones, Rapoport (1977).
2. Respondents who have recently moved into a slightly better housing are more easily satisfied with whatever they have than those who have been living in the same place for a longer time, Schorr (1965), or what Lee (1976) referred to as the "Hawthorne effect" - people who are re-housed are often gratified by the implicit goodwill of the gesture and likely to respond warmly to questionnaires, distorting their true feelings for the building.
3. As White (1966) pointed out that the experience with the environment which may be interpreted as the period of the residence in the area tends to influence the expression of people's attitude to their environment. For example, the first time a subject enters a building he is experiencing an exploratory mode of behaviour; thereafter, when he regularly uses the building he experiences a habitual mode of behaviour (Hershberger, 1972). It is the latter mode that is the more important for evaluating the architectural environment for it is the habitual use of the building that determines its success or failure. Hershberger, further said that a building cannot be evaluated before it has acquired habitual pattern of behaviour associated with it.
4. With the foregoing in mind we considered that a period of two years would be reasonable for a household to be able to carryout sufficient interventions in their housing for the purpose of the study.

#### 4.4 SAMPLE AND SAMPLING STRATEGY

The study, as already stated in the previous sections, is generally concerned with how low-income households in Kissy experience and intervene in their housing environment. This calls for an in-depth study of the underlying phenomena of the interventions of the households and the satisfaction they derived in their housing environment. Social survey, a technique adopted in this study usually requires a large sample size of sufficient but varied characteristics that equally reflects the variation that might result in the total population (Backstrom, 1981), and also to estimate the incidence or prevalence of relatively rare phenomena (Rossi and Freeman, 1982). The sample size in this study will nevertheless be restricted in the hope that personal elements of a relatively restricted yet in-depth analysis will provide richness of data which would otherwise be lost in statistical validation if the sample size is very large. The use of a large sample size was also beyond the scope of the study for reasons already mentioned.

Sampling, that is the deliberate selection of few units or individuals representative of the population about which conclusions are made is a long and well-established practice in social science research. Sampling may either be random or non-random. Random or probability sampling in its ideal form entails the selection of units such that each unit has a known and non-zero chance of inclusion. This is the basic form assumed in survey statistical computations. Non-random or non-probability sampling designs are recommended where probability sampling is either impossible or unnecessary or both.

The dwellings in these neighbourhoods are heterogeneous in character and made up of conventional and non-conventional units. The former are units built with the approval of the State or concerned authorities, and a list of these units can be obtained from a register at the Ministry of Lands, Housing and the Environment. The register does not say whether the units are owner-occupied or rented. The non-conventional units are those built without the approval of the State or concerned authorities, and no record about them can be obtained. These units had to be incorporated into the study as they form a substantial part of low-income housing in Freetown. Their role in alleviating housing need is also widely recognised.

Determining the sampling frame was extremely difficult if not impossible, and the paucity of data in this area is an affirmation of this contention. Random sampling method was relied upon in establishing the sample for use in this study. In the end, ninety-four households were selected for the study. This was the number of households possible to survey within the time available for the study. The careful

selection of the samples that reflect the variations in the residents' dwelling units, experience, age, sex, and personality with standard and structured instruments for data gathering offered the possibilities of making a fair representation of the population on which the accuracy of the investigation primarily depends.

#### 4.5 VARIABLES AND THEIR MEASURES

For the measurement of the variables in the hypotheses it was necessary to develop scales which were employed in a structured questionnaire administered to the respondents in eliciting their responses. The method of semantics was adopted. This involves the notion of the dimensionality of concepts, which simply means that things can vary from being at one extreme to the other i.e. a semantic space consisting of a semantic scale defined by a bi-polar adjective assumed to represent a straight line function that passes through the origin of that semantic space (Osgood et al, 1957).

The primary scale created was the residential satisfaction scale which represented the dependent variable. The other scales were ; household intervention, housing management control, available resources, residential attachment, preferred housing, previous housing experience, and demographic factors which include household density, household size, the education, age and occupation of the head of the household.

##### **Residential satisfaction**

The measurement carried out was based on the reported satisfaction of the respondents. Two dimensions were used to measure the residential satisfaction, the likelihood of behaving in certain ways, and the satisfaction with specific attributes. A four point scale was developed to indicate the response of the subjects arranged from 1 to 4 with 1 indicating very unlikely or very dissatisfied and 4 indicating very likely or very satisfied.

The indices used in measuring residential satisfaction were self-weighting in that the subjects were given the freedom to consider the salient attributes of the matter in question, weigh them in their minds and report an overall level. This method is quite different from the external weighting type that requires the researcher to develop a weighting scheme as a result of combining different scales. Some researchers have adopted the latter method (Harris, 1976; Yockey, 1976 and Morris, 1976) by asking respondents to report satisfaction of each of the attributes in question and also to report the importance of each attribute. Scales were then developed by weighting the satisfaction responses with the importance responses. There is no inherent superiority

of one method over the other, but the self-weighting scheme is preferred to the external weighting scheme. Considering the nature of the study and its limitations it was decided to adopt the self-weighting method.

To be able to justify the adoption of this self-weighting approach let us recall what Goldschmidt (1966) said, that people are more alike than cultures. This is because social demands are normative, while the average behaviour under any culture tends towards the centre of the range of humans as a whole. Commenting on this, Yi-Fu Tuan (1972) said that the suggestion points to the limitations of culture as a force-making in human adaptiveness and it recognises the existence of human nature to which culture must adapt. These limits are placed by two polar attributes of man; his uniqueness and his participation in universal human culture. It is not our intention to digress from the theme of this study but to highlight the fact that in studying man in his environment there are those processes and operations which are functioning parts of society that can be directly observed, and that there are those dimensions of man, including his response to the built environment that cannot be observed, which lie outside the traditions of functionalism. To select a criterion from the many people use in assessing something will induce the risk of error. It is therefore necessary to give the subjects the freedom of selecting the criteria they wish to use. In that case, the subjects need not reveal the criteria and all our concern is to determine the aggregate responses of all the subjects and the difference between individual groups.

Five items were included in the questionnaire for measuring residential satisfaction, they include :

- a) the likelihood of recommending Kissy to someone they know as a place to live
- b) satisfaction with Kissy as a place to live
- c) satisfaction with children's play area
- d) satisfaction with the dwelling as a place to live
- e) satisfaction with the size of the dwelling in terms of the number of rooms

Various items some open-ended and some with appropriate response categories were also included in the questionnaire to elicit their responses and comments about some attributes of their housing environment.

### **Household intervention**

Very little study has been devoted to the measurement of household intervention. Even the limited studies that have been carried out so far, mostly in the United States, the common practice of assessing interventions has been collecting information on the number and type of activities done, and the cost of the various activities, Bross (1975) and Yockey, (1976). Sometimes the focus has been solely on the amount spent, US Bureau of Census USBC (1976) and Winger (1973).

The problems associated with these methods have been discussed in chapter three. The cost approach, however, has been based on the willingness of the household to pay for their interventions. For this to happen, their need for that particular intervention must be aroused to a level that will justify any economic undertaking, and is within their economic means. It was therefore assumed that the perceived use value of an intervention is related to the economic value of the intervention. It was also assumed that the willingness of the residents to pay for an intervention, their ability to do so, their expenditure priorities must all be taken into account before a particular intervention is carried out. So that the higher the economic value of the intervention the higher its perceived use value.

Initially in this study it was considered that in order to determine the economic value of an intervention, it was necessary to determine its cost in relation to the income of the household. This approach presented difficulties. First, how accurately can one determine the household income in developing countries when the continuity and security of primary sources of income are not guaranteed? Also as primary sources of income are in most cases inadequate, households rely on secondary sources of income which are irregular and most households are reluctant to divulge such information. Findings, for example Rakodi (1989), that the willingness to pay for several quality measures is quite responsive to income and increases as income increases, but at less than a proportionate rate; and that the willingness to pay for additional living spaces declines as household size increases, raise questions that need to be answered if such an approach is to be adopted.

By simply determining the cost of an intervention in relation to the household income in an attempt to derive a score for their intervention will not only prove to be tedious, if not impossible, but will give misleading results. Also the cost of the intervention in relation to the household income is not a sufficient justification for the household's disposition to undertake that particular intervention. It was therefore necessary to look for another approach for quantifying interventions. It was necessary to make the distinction between the value of the intervention and the household value in undertaking the intervention. The former which has been referred to as the perceived use value, as it is subjective rather than normative, is the ability of the intervention to confer benefit to the household. The latter, the household values in undertaking the intervention, was referred to as the disposition of the household to devote its resources in carrying out the intervention. The aim was not to establish a relationship between these two value systems but that in assessing an intervention both values must be taken into consideration if we are to gain anything like a true measure that reflects the global attributes of the intervention.

The method adopted in measuring these two values in an intervention is the use of a scaling procedure for particular dimensions that accurately describe the quantity that we intend to measure and to represent the responses of the subjects by the degree of the dimensions expressed along scales that define these dimensions. The dimension of 'importance' represented on a graded continuum of importance from unimportant to very important was used to measure the perceived use value of the intervention. The dimension used to measure the household value in undertaking the intervention is the expensive dimension which also varied from inexpensive to very expensive. The measurement was based on the partial evaluation of each intervention and a summation of all interventions for each household rather than the evaluation of the overall interventions. The partial evaluation method gave the opportunity not only to be able to quantify each intervention, but also gives insight into the types of interventions carried out.

The 'importance' and 'expensive' scales were self-weighting in that the subjects will consider the salient attributes of their intervention, weigh them in their minds, and report the overall importance and expensiveness of the intervention. The use of such dimensions or criteria by subjects involves a dynamic, emotional and cognitive process requiring the continuous weighting of all the imports of the social and physical factors related to the intervention and balancing them to achieve mental and experiential congruence. Self-weighting schemes which are internal and implicit are preferred to the external weighting schemes which require the researcher to develop common criteria to be used by the subjects.

All interventions carried out by a household were listed under specific categories during the interview and the respondents were asked to rate each category using the following scales :

- |                   |              |                |
|-------------------|--------------|----------------|
| 1. Very expensive | 2. Expensive | 3. Inexpensive |
| 1. Very important | 2. Important | 3. Unimportant |

The respondents were also asked to state whether the interventions were carried out because they wanted to improve their dwelling or to prevent deterioration in its condition. A scale was then developed by weighting the importance responses by the expensive responses. A very important and very expensive response represented the highest point on the scale, and an unimportant and very expensive response was rated as the lowest on the scale.

### **Housing management control**

The housing management control scale was constructed from the following four indicators :

- a) perceived interference of management rules
- b) the household's control of their dwelling
- c) the level of privacy the household has in their dwelling
- d) the security of tenure

Items for measuring these indicators were included in the questionnaire each with a three-point scale on which the responses of the subjects were measured. The items were as follows :

- a) How much freedom do the rules for living in this house give you to alter, change or maintain your house. Do the rules give you no freedom, little freedom, or much freedom ?
- b) How secured is your tenancy for this house. The response categories were; not secured, secured, and well secured.
- c) How would you rate the control you have over this house and your household? Would you say it is low, moderate, or high?
- d) How would you rate the privacy your present house offers to you and your household. Would you say it is low, moderate, or high?

Other items were included in the questionnaire under housing management control. Some with appropriate response categories and some open ended to elicit the responses of the subjects as regards aspects of their housing related to the level of the control they have in their housing

#### **Available resources**

The available resources scale was constructed from three indices; financial, social, and physical resources. Seven items with three-point scale were included in the questionnaire together with other items designed to elicit information about the availability of these resources for the households' interventions in their housing. The seven scaled items were as follows :

- a) How difficult was it to get people to do the work for you. Was it very difficult, difficult, or not difficult ?
- b) How difficult was it obtain the required building materials to carry out the works. Was it very difficult, difficult, or not difficult ?
- c) How difficult was it to obtain the finance needed to carryout the work. Was it very difficult, difficult, or not difficult ?
- d) Do you think that the lack of finance has kept you from making the necessary changes, alterations or maintenance to your house? The response categories were; 1) yes, very much so, 2) yes, to some extent, 3) no, 4) don't know.
- e) How often do your neighbours help you out when you are in difficult situations. Would you say always, sometimes, or never ?



f) How true are the following statements as they apply to your dwelling. Would you say they are very true, true or not true?

1. The place needs minor repairs
2. The place needs major repairs.

### **Preferred housing**

The 'preferred housing' scale was developed by combining three items. These items were derived by combining three attributes of the respondents' present and preferred dwellings. These attributes include the type and size of the dwelling, and the height of the building in which the dwelling is located. Three items were included in the questionnaire to elicit information regarding the respondents' preferred housing of these attributes.

The type of the respondents' present and preferred dwellings were determined from the following response categories:

1. Detached (one family) house
2. Semi-detached (two-family) house
3. Flat (three- or more family) house
4. Adjoining (three- or more family) house
5. Temporary / pan-body

The size of the respondents' present and preferred dwellings were determined in terms of the number of habitable rooms in the dwelling, using the following categories :

- 1 One habitable room
2. Two habitable rooms
3. Three habitable rooms
- 4 Four habitable rooms
- 5 Five or more habitable rooms

The height of the building in which the respondents' present and preferred dwelling are located were determined from items in the questionnaire with the following response categories:

1. One floor high
2. Two floors high
3. Three or more floors high

The respondents' present dwellings were matched with their preferred dwellings for the three attributes described above using the following scale:

1. Present and preferred dwellings different
2. Present and preferred dwellings the same.

### **Previous housing experience**

This variable represent the match between the respondents' present housing and their previous housing. Five attributes were considered which include the type, quality, size and location of the dwelling, and the household size in terms of the number of occupants in the dwelling. The type and size of the dwelling were determined using the same categories as in the preferred housing variable. The location attribute of their previous dwellings was determined from the following categories:

1. Freetown
2. Suburbs of Freetown
3. District capitals
4. Town
5. Village

Household size in both homes was determined using the following categories:

1. One to three people
2. Four to six people
3. Seven to eight people
4. Nine to ten people
5. Over ten people

The respondents were also asked to rate the quality of their previous home in terms of their present home and their responses were measured along the following five point scale:

1. Much better
2. Better
3. Same
4. Worse
5. Much worse

As in preferred housing, the respondents' previous housing was matched with their present housing on the five attributes described using the same scale, as follows:

1. Present and previous housing different
2. Present and previous housing the same.

Other items some with appropriate response categories and some open ended were also included in the survey questionnaire to elicit information that was used in both the qualitative and quantitative analyses of the data.

### **Residential attachment**

This variable is a measure of how attached the households are to their present neighbourhoods in Kissy. The indicators for this variable include the respondents' interaction with their neighbours, relatives and friends, the duration of residence in the neighbourhoods and the dwellings. Four items were included in the questionnaire to elicit information about these indicators, which include:

a). How long have you lived in the Kissy area? The response categories were:

1. 2 years, but less than 5 years
2. 5 years, but less than 10 years
3. 10 years, but less than 20 years
4. 20 years or over.

Categories 3 and 4 were collapsed to '10 years or over' in the analysis.

b) How long have you lived in this particular house? The response categories were similar to those for the neighbourhoods in Kissy.

c) If you have relatives and friends in Kissy, how often do you see them than those living outside Kissy? Would you say:

1. Less often
2. Often or
3. More often?

Please say how true the following statements are in your case. Would you say they are ; 1. very true, 2. true, or 3 not true?

- d) I usually spend a lot of time talking to the neighbours
- e) I know the names of most families around us.

## **4.6 RESEARCH TECHNIQUE AND DATA COLLECTION**

The technique employed in this study include a resident survey with the head of households utilising a structured questionnaire as a primary source of data, site observation employing an environmental assessment tool. Several factors and obstacles were considered when this multiple information-gathering approach was employed, most of them related to the socio-cultural background of the people involved. Primarily the central concern of the study had an important role in making this decision. The study which is concerned with how the residents intervene in their housing require both objective and subjective assessment of the various aspects involved. To rely on a single technique may leave out vital information that would otherwise have been obtained if other techniques were employed.

Before looking at these factors, a word or two about the advantages and appropriateness of this approach need mentioning. These factors do raise uncertainties which would induce greater risk of error in obtaining information when one particular technique is employed. While each technique has its advantages in dealing with these uncertainties, each has its limitations and there-by induces bias. However, using multiple information-gathering approach would allow the weaknesses of one technique to be partially compensated by the strength of another technique (Warwick, 1983). For example, the limitation of the questionnaire survey in obtaining some objective measures regarding the physical conditions of the respondent's housing can be supplemented and cross-validated by using the observation technique. Similarly, the questionnaire survey can be useful in obtaining information about the respondent's satisfaction or privacy related issues of his housing environment which might be impossible to observe from outside. The distinction between what can be observed from inside and what can be observed from outside need to be clearly and distinctively understood when both techniques are being employed. These two perspectives in the environmental evaluation process have been referred to by Rapoport (1977) as the emic aspect of environmental cognition (how things look within a system) and the etic aspects (the way outsiders evaluate the same events).

The chances of minimising bias are even greater when employing multiple information-gathering technique. Campbell and Fisk (1959) have referred to this approach as methodological triangulation and the argument for its use was reinforced by Webb (1966) who referred to it as the attempt to strengthen the validity of empirical evidence in social science by reliance on more than one approach. Webb also had this to say :

"Once a proposition has been confirmed by two or more independent measurement processes, the uncertainty of its interpretation is greatly reduced. The most persuasive evidence comes through a triangulation of measurement processes. If a proposition can survive the onslaught of a series of imperfect measures, with all their irrelevant error, confidence should be placed in it "

The socio-cultural factors that influenced the decision in relying on this approach can be summarised as follows :

### Illiteracy

Widespread illiteracy in the third world is a set-back for most research and Sierra Leone is no exception. Those subjects who cannot read or write will require the presence of a third party and this raises the question of credibility of the information obtained by the use of a particular technique, and it would be difficult to establish the extent to which the content of the questionnaire has been altered. However, the presence of the

interviewer will safeguard against the misinterpretation of the questions. In some cases a third party close to the respondent would be needed to give some information.

#### Individual privacy

In societies of most developing countries, of which Sierra Leone is a part, where research is rare especially those directed towards the gathering of information of the personal kind will attract a higher refusal rates. First, because it is uncustomary for the subjects to disclose such information to strangers. Second, due to high demand for dwelling units particularly in the public low-cost housing developments subjects would be hesitant to disclose information for fear that it might affect their tenancy. The situation can be delicate and will require careful planning on the part of the researcher to be able to reach the subjects and be trusted as one to whom such information can be revealed.

#### Ability to respond

Which ever technique is employed by the researcher it must be consistent with the ability of the respondents. Most respondents are either illiterate or have had a very little formal education and therefore, one should not take for granted the respondents knowledge and vocabulary. The vocabulary used should not be beyond their comprehension. The researcher should avoid the use of unfamiliar words and phrases. A pilot study conducted before the main study was useful in assessing the ability of the respondents and to re-phrase and re-word the questions so that they can be comprehended by the respondents.

#### Respondents available time

Due to the existing socio-economic problems in the country most people do not rely on one source of income. They need to supplement their income by other available means and this leaves them with very little time for issues such as taking part in an interview. Most people will be very difficult to get hold of and even when they give their consent to be interviewed limited time will be offered. If too much of their time is demanded they may become impatient which may lead to a speedy interview, thus inducing bias in their responses.

#### Over-reacting responses

Which ever techniques are employed in securing the willingness of the subjects, there will still be the issue of suspicion and trust on the part of the respondent which may induce bias. If the respondent do not trust the interviewer as someone he can confide in the former may produce over-reacting responses that could be misleading.

### **Residents' survey**

The resident survey involved a structured interview with the heads of household living in a low-cost housing unit in Kissy. The decision to carry out the survey was motivated by the fact that there exist very little if ever any information about how people characterise their environment in low-income housing in Freetown. Moreover, it presented the best means by which the task at hand could be accomplished. Furthermore, this procedure enabled us to repeatedly test and affirm statements of how households intervene in their housing environment, how people are similar or different from others in respect of their perception and attitudes towards their residential environments.

Before the final questionnaire was administered a draft was prepared and reviewed and tested in a pilot study in January 1990. The following points were considered when the draft of the questionnaire was being prepared:

1. the desire to achieve a higher response rate
2. the desire to get as much information pertaining to the study as possible from respondents by probing some of their answers and recording voluntary comments
3. the desire to reduce bias and no-answer which can be attributed to misunderstanding of the questionnaire item
4. the desire to intensify the interview with some respondents beyond its structured form and hence, provide insights into their social life and reasons for their interventions in their housing.

Several problems at the pre-testing stage of the questionnaire were envisaged. These included :

1. hostility when approaching the respondents on their door steps
2. difficulty in selecting the most convenient time of day to interview subjects, especially those who are very busy
3. discomfort in answering questions in person and the presence of others likely to embarrass subjects in answering some questions.

The final questionnaire used in the main study contained 64 items (Appendix A). Questions were designed to elicit information related to the hypotheses which were presented in chapter 3 of this report. There were nine categories of questions and each category was represented by a letter code. In some categories the questions were scattered through out the questionnaire in order to increase response reliability or to diminish the importance of potentially emotionally charged topics. For example, the question dealing with household income, a sensitive issue, was asked towards the end of the interview, and by which time the interviewer would have established rapport

with the subject and secured his/her confidence. Most of the questions dealing with demographic characteristics were asked at the beginning of the interview.

### **The pilot study**

In the pilot study fifteen heads of household were interviewed of which five were residents of the public low-cost housing development at Kissy, five in private owner-occupied housing and five in private rented housing. The interviews in the pilot study were carried out exactly as they were to be carried out in the main study which took place in November 1990, in order to establish the rate of time, improve question sequence and wording, reduce the number of questions with open ended format to questions with appropriate response categories, and spot objectionable questions. The following criteria were followed in selecting the subjects interviewed :

1. the subjects selected were all members of a low-income household in the Kissy area
2. the interviews were performed so that all questions were asked in the same manner to all subjects
3. the subjects must have lived in their homes for at least two years.

Effort was made to overcome the difficulties initially envisaged, particularly in establishing rapport with respondents and stimulating their trust, interest and co-operation in the interview. Initially, several attempts were made to get the consent of the subjects to be interviewed. It became clear that directly approaching an unknown subject was fruitless. Subjects in private housing were relatively willing to be interviewed. It was difficult in the case of the subjects in the public rented low-cost sector. These subjects were critical and doubtful of any outsider trying to probe their personal affairs especially after the recent eviction of tenants by the Sierra Leone Housing Corporation (SALHOC) who were considered to be in the middle income group. Hence, the idea to get SALHOC to write a letter of a brief notification of the investigator; who he is, where he is working, the research he is doing, and encouragement to help him to obtain the desired information, to the residents in the public low-cost housing development in safeguarding any possible suspicion that might be developed by them, was abandoned. Help from intermediaries or third-parties who were acquaintances of the subjects was sought as a confidence building measure as it is strange and in most cases objectionable in Sierra Leonean society for people to reveal information of the personal kind to strangers. These intermediaries were relatives, close friends, or colleagues. The investigator became involved in the social activities in the Kissy area in order to establish friendly relations with the people, to develop their confidence in him and to make the task less difficult to accomplish. A remuneration of between Le200 and Le500 were paid to subjects but not all accepted it. Among those

who declined to accept the remuneration some had to be treated to a drink or two a day prior to the interview.

All interviews took place in the subjects home and the pilot study revealed the following:

1. The length of time for the interviews ranged between one-and-three-quarter hours to two-and-a-quarter hours
2. Since the interviews took place in the subjects home an additional one hour was needed for refreshments and for acclimatisation, thereby creating a relaxed and comfortable atmosphere for the subject to develop confidence in the interviewer and be willing to talk freely
3. Interruptions by visitors and at times by members of the same household were common. The length of time involved varied and in one case the interruption was permanent and the interview was not completed.
4. Most subjects preferred to be interviewed in the mornings, evenings or at weekends. This restricted the number of interviews to be conducted in a week.
5. Resentment by the subjects was noticed when questions of a personal nature, especially those dealing with their financial situations, were asked.
6. Most subjects tended to be very brief in answering personal questions unless they were probed
7. In response to open-ended questions, some subjects tried to answer with reference to a specific incident they had experienced. It took subjects longer to answer these questions.
8. Those interviewed were not all heads of households. When the head of household (usually the husband) was not present the wife was interviewed. The questionnaire was not designed to elicit information about the interviewee other than the head of household. The questionnaire was therefore restructured to include this aspect.
9. The scales used in some items in the questionnaire particularly the one relating to household interventions were found to elicit biased information. The subjects were required to state the various interventions their households have carried out and to say whether each intervention was very valuable, valuable, not valuable or not at all valuable to them. The response from all subjects were either very valuable or valuable. It became clear that we were in fact asking the subjects to value their own effort and therefore the tendency was to over-value it. This item together with others were restructured for the main study in order to overcome or minimise such tendencies .



The six weeks spent on the pilot study helped us to realise that the original time estimate for the main study of approximately two months had to be revised. The main study in fact took just over three-and-a-half months even though hired hands were employed.

The pilot study generated useful information that enabled us to restructure the questionnaire and the environmental assessment tool for systematically collecting the needed data that were reliable.

### **Site observations**

This part of the study was carried out in conjunction with the survey questionnaire as an objective assessment to ascertain the actual environmental condition of the respondents' housing environment. The technique adopted involved the use of an environmental assessment tool (see Appendix A). This assessment primarily involved the completion of a checklist of the characteristics of the subjects' housing environment. It also involved the document review which included a sample of architectural drawings when they were available, and sketching the plans of the dwellings surveyed. Photographs of the dwellings and the neighbourhoods were taken as part of the data and used as illustrations. Some of these photographs are shown in Appendix 'D'.

After each questionnaire was administered observations of the dwelling and its immediate neighbourhood were carried out using the environmental assessment tool. This enabled the investigator to carry out the task in the same manner for all the subjects and without the exclusion of any item. Two categories of the items were included in the tool for observing both the dwellings and their immediate neighbourhood as follows :

#### **Physical characteristics of the residential environment**

This include the type and size of the dwellings; material used and the quality of construction; age, condition and appearance of the dwelling and its immediate neighbourhood; location of the dwelling in relation to its surroundings

#### **Behaviour characteristics**

This includes ease of access to and from the dwelling; space usage patterns, movement of people in and out of the dwelling, ways of maintaining privacy, social interaction, children's play area in the neighbourhood and parking behaviour.

The original tool was also tested in the pilot study and the results led to the development of the final tool used in the main study. The information obtained by this technique was used as a reliability measure for supporting the interpretation of the results of the resident survey. It also generated information even though not related to the testing of

the hypotheses but were however used in the analysis, the results of which helped explain the predicted relationships.

### **Personal interviews**

In addition to the standard questionnaire and environmental assessment tool, personal interviews were also conducted to elicit necessary information from key policy makers at the Ministry of Lands, Housing and the Environment, the estate and planning officer and architects at SALHOC, architects, planners, engineers in government and private practices.

The strength in this technique lies in the fact that the researcher can intensify, dig deeper and vary the sequence of the questions as the situation permits thereby getting a comprehensive insight and understanding of the subject in which he /she is interested. However, the technique is not without its debility. One basic objection to the technique lies with the fact that the data it elicits are often not amenable to quantification. This is because unless all interviewees are asked the same questions in the same sequence and manner there is no assurance that the answers obtained relate to the same thing and can be meaningfully compared. Quantification and comparability were however not the main concerns in the present study. The reason being that the information gathered through the interviews was used mainly for qualitative purposes such as revising the questionnaire and the environmental assessment tool, and tracing the evolution of housing policy as regards the upgrading of low-income houses. The interviews were conducted face-to-face in the interviewees' offices. This mode was adopted not only because it was more cost-effective in comparison to other modes such as telephone conversation or mail correspondence, but it gave the opportunity to the interviewer to establish rapport and intensify the interviews thereby obtaining sufficient information.

Some of the interviews were pre-planned with the interviewee and some (particularly with people living in the neighbourhood where the study took place) were unplanned. To get the consent of professionals to be interviewed was not difficult, only in locating them. Several attempts had to be made before some interviewees could be reached. Before an interview took place the researcher arranged an appointment with the interviewee. In some cases even though an appointment would be made the interviewer would not find the interviewee in his /her offices on his arrival. On one occasion the interviewee could only be located after four unsuccessful attempts.

Once the subjects were located and a brief introduction of the research, its objectives and purpose was made, the subjects became readily agreeable. Personal interviews lasted between half-an-hour to one-and-a-half hours. These interviews did reveal information that was useful, particularly in obtaining the standard response categories

for demographic characteristics such as age, educational qualification, occupation as used in the national population census. It also enabled us to employ the classification of building types as currently used.

A note was made of all the possible areas the researcher wished to discuss with the interviewee prior to the interview. This was necessary as it enabled the researcher to deal with every conceivable point relating to the subjects area of concern.

#### 4.7 STATISTICAL ANALYSIS

The data collected in the main study were coded , built into computer files and tabulated. Presentation and analysis of the data involved the following; first, one-way tabulations to study the frequencies and percentage distribution of the responses, and to compare different groups' responses. As a descriptive statistic, this process was very useful in the presentation of most data in a more simplified way that could be understood by non-researchers. Second, cross tabulation was mainly used to discover the relationships among variables.

Several cases or items from the questionnaire were combined to form a number of scales which are; residential satisfaction (RS), household intervention (HI), housing management control (HM), available resources (AR), residential attachment (RA), preferred housing (HP), previous housing experience (HE) scales. The internal consistencies of these scales were tested by correlating the items each scale contains with each other by determining the inter-item correlations, while the reliability of the scales were determined from their Cronbach alpha values. The relationships between the dependent variable (RS) and each of the independent variables identified in the hypotheses were evaluated by means of the Pearson moment correlation coefficients. Further analysis involving the Chi-square tests were employed to determine the level of confidence for pairs of variables found to correlate with each other at a predetermined level. These tests were also carried out to determine the association between some of the demographic variables and household intervention and residential satisfaction. The analysis of variance was also carried out in testing those hypotheses which involve the comparing of different factors.

The analysis of the data collected using the methods and techniques described in this chapter and the results obtained from the tests of the hypotheses are presented in the next three chapters.

## CHAPTER 5

### GENERAL RESULTS AND HOUSEHOLD INTERVENTION

#### 5.0 INTRODUCTION

One of the requirements in the selection of a sample which is unbiased and truly representative of the population of the study, as mentioned in chapter 4, is for the sample to reflect the variation in characteristics within the population. This chapter therefore begins with a presentation of the descriptive statistics of the study with regards to the general characteristics of the sample. This will include the characteristics of the household, the dwelling unit and the neighbourhoods in which they are located.

This study is concerned with how low-income families in Kisumu intervene in their housing and the satisfaction they derive, and for it to be of any relevance to public policy making and programme planning it is not only essential to analyse interventions carried out by the residents, but also the reasons for undertaking them, in order that we may understand the degree to which these residents can be involved in the improvement and maintenance of their housing. The reasons we will be dealing with in this chapter in no way refer to the motivational ones that propel the residents to intervene in their housing which have been touched upon briefly in the paradigm in which the study is grounded as presented in chapter 2. Beyond this paradigm the residents intervene either to improve their housing beyond its original quality and condition, or to prevent its deterioration. In other words, interventions can be classified as either improvements or maintenance according to the reason given by the residents for undertaking them.

Section two deals with the type of interventions carried out by the residents in their housing and the criteria for classifying them as either improvement or maintenance. The section also deals with the analysis of the overall intervention scores, improvement and maintenance activities for all the sample and the three residential groups, i.e. owner occupiers (PO), renters in the private housing (PR), and renters in public low-cost housing (PH). The summary of the findings reported in this chapter is presented in the final section.

## 5.1 GENERAL CHARACTERISTICS OF THE POPULATION

### Household characteristics

Ninety four households were included in the study, of these 48 were PR households, 25 PH households, and 21 PO households. The total household surveyed represents 802 individuals with an average of 8.5 people per household. Of these 396 (49.4%) were children below the age of 18 years with an average of 4.5 children per household. Seventy four (78.7%) of the respondents were heads of their households and twenty (21.3%) were respondents other than the head of household. Eighty-three (88.3%) of the heads in the sample were male while ten (10.6%) were female with one case not recorded.

The age of the head of household varied from 15 years to over 55 years. Thirty eight (40.4%) were in the 35 to 44 years age group, 24.5% were below 35 years while 35.1% were 45 years and above.

Regarding the status of the head of household variable, 86.2% of the sample were married, 10.6% single and only 3.2% were widowed. None of the heads of household was either divorced or separated. Income, a variable representing the monthly household income range from Le1,000 (Leones) to over Le10,000 at the time of the survey. Thirty-eight (40.4%) of the household earned between Le3000 and Le5000, while 17.1% earned less than Le3000 and 28.7% earned between Le5000 and Le10000. Only 13.8% earned Le10000 and above.

Regarding the educational qualification of the head of households, 64.1% attained secondary school or GCE 'O' level and 14.1% had no education. Those that never went beyond primary school level accounted for 10.9% of the sample. The largest group in the occupational variable were the civil servants who accounted for 26.6% of the sample, followed closely by the self-employed with 25.5% of the sample. There were only 16% of skilled workers, 14.9% of professional workers and only 8.5% were unemployed.

In response to the item in the questionnaire which asked the respondents if they were the first occupants of their present dwelling, thirty-seven (39.4%) indicated that they were the first occupants since their dwelling unit was completed. Fifty-five (58.5%) said they were not the first occupants and one respondent didn't know. As regards the location of their previous home sixty-three of the households (67.0%) had previously lived in Freetown, twenty-two (23.4%) in the suburbs of Freetown. Only eight (8.5%) had come from district capitals and towns and one of the respondents had previously lived in the village

### **The dwelling unit**

Of all the households surveyed 30.9% lived in a detached house, 22.3% in a semi-detached house, 19.1% in flats, 23.4% in adjoining and only 4.3% lived in a temporary/pan-body. As regards their previous home before moving into the present one, 41.5% had lived in a detached house, 16.0% in a semi-detached house, 17.0% in flats and 24.5% in an adjoining. Only 1.1% had lived in a temporary/pan-body house.

The majority of the households surveyed (69.2%) had lived in the Kisumu area for 10 years or more and 30.9% for less than 10 years. But only 35.1% of them had lived in their present home in Kisumu for 10 years or more and 64.8% for less than 10 years. Most households have therefore lived in their neighbourhoods longer than in their present dwellings.

Thirty-eight (40.4%) of the dwelling units surveyed had internal bath/toilet and sixty (63.8%) had bath/toilet located external to the dwelling unit. Twenty-two (23.4%) of the dwellings had internal bath/toilet supplemented with external bath/toilet facilities. Of all the dwellings surveyed 93.6% were used as living quarters and only 6.4% had mixed uses. By far the most common wall construction was 'sandcrete' blocks with traditional sand/cement finish and these accounted for 69.1% of the total sample. Brick wall construction accounted for 14.9% of the total sample of dwellings surveyed, while 13.8% had their walls constructed with corrugated metal sheets. Only one unit had stone and timber wall construction. The roof construction was either corrugated metal sheets or reinforced concrete, and by far the most common was the corrugated metal sheet construction which accounted for 94.7% of the total sample. Just over one-eighth of dwellings in the sample (12.8%) had their unit and compound totally enclosed, 38.3% were partially enclosed and 48.9% were not at all enclosed.

### **Neighbourhood characteristics**

Access from a municipal street into R's compound was either direct, going past a house on the street, or along a foot path from the municipal street. Of all the sample 86.2% were located by the street and had direct access, 12.8% the access was along a foot path. Only in one case was the dwelling located behind another alongside the street. The age and characteristics of the neighbourhood of the respondents varied from new to old. Just under half of the households in the sample (46.8%) were in old neighbourhoods, 36.2% in new neighbourhoods while 17.0% were in transitional neighbourhoods.

In the sample most of the households surveyed (95.7%) lived in low-rise neighbourhood with the dominant building profile of three storeys or less. Only (4.3%)

of the households in the sample lived in high-rise neighbourhoods with the dominant building profile of more than three storeys high.

## 5.2 TYPES OF INTERVENTIONS

Sixty-two types of interventions were identified from the results of the pilot studies carried out prior to the main studies. The aim was to enable the quantification of interventions using similar categories for all households interviewed. Of these, forty-two were categorised as improvements. As we have already seen, difficulties were anticipated in making the distinction between improvement and maintenance activities. It was difficult to draw a clear and distinct line between what constitute improvement or maintenance for some interventions. However, criteria were developed along side the reasons given by the respondents for their intervention in classifying the various activities.

The type of interventions covered in this study are those connected with construction activities and the way residents personalise their dwellings. These include maintenance and repairs, additions and alterations which are made to the dwelling and cover both the inside and outside of the dwelling, or on structures on the building incidental to the residential use of the main dwelling, or for the plot on which the dwelling is erected.

The kind of activities covered are those carried out by the present household and do not include any work done prior to their moving into the dwelling. The work may be done by the households themselves with or without help from friends, neighbours or relatives, or by hired labour, but should nonetheless be carried out with the knowledge of and/or under the directions of the heads of households. The dwelling may be either rented or owned by the households. In the case of a capped house - a building where only the ground floor of the house is completed and roofed over preparatory to constructing additional level and rooms at a later date - household intervention is deemed to have started when the partially completed building is occupied and will include all maintenance and repairs, additions and alterations carried out on the building thereafter and incidental to the residential use of the main dwelling by the household concerned. However, where additional floors are erected for the sole use of another household independent of the present household, any intervention carried out by the latter is not covered in this study.

### **Maintenance and repairs**

Maintenance and repairs include interventions carried out with the purpose of restoring the dwelling to its original condition in order to prevent deterioration. Maintenance and repairs include, among others, painting. However, the first painting carried out after the

household has moved in is classified as improvement, and any subsequent painting is classified as maintenance. This applies to plastering and screeding of existing walls and floors. Items covered under this category also include maintenance and repairs carried out on existing plumbing and electrical installations, and also include replacement of parts, e.g. roof repairs including replacement of roofing sheets, gutters etc., but a complete re-roofing is classified as improvements. Plumbing repairs may also include extensive replacement of existing pipes and fittings, but if the entire piping system is removed and a new one put in, the replacement is classified as improvements. The emptying of a septic tank or a cesspit is classified as maintenance but where an existing septic tank or cesspit is discarded and replaced with a new one, the replacement is classified as improvement. Household activities such as cleaning windows and walls, waxing floors and furniture, repair of household appliances etc. are not covered by the study.

### **Improvements**

Improvements include all interventions directed towards the improvement of the dwelling beyond its original condition when the household first moved in. This includes additions and refers to the actual enlargement of the dwelling either by adding a wing, a room, a porch, a garage, shed, car port, kitchen, toilet etc., attached or separate from the main dwelling unit. Improvements also include alterations within and without the dwelling unit and range from a complete remodelling which involves removal of the entire interior and remodelling it, to the installation of new electrical services, telephone, plumbing, built-in shelves, or fixed furniture. It also includes provision of items which are not firmly fixed to the dwelling such as household appliances, e.g. stoves, refrigerators, etc., as are household furnishings such as furniture, rugs, floor linings, curtains and arts and craft. Also included in this category are external provisions such as fencing, planting hedges, paving, constructing drives and surface water drains etc.

The above guidelines were developed from the results of the pilot study which was conducted in the Kissy area in which the residents were asked to list down all interventions they have made in their housing since moving in and to state whether each intervention was made for the purpose of improving their dwelling or to prevent its deterioration. The reason given for an intervention was compared with the guidelines outlined above and the intervention classified accordingly. A list of 165 various interventions were recorded and some were grouped together thereby arriving at a final list of 62 items of interventions which was applied during the main study. Interventions named by the respondents were classified under one of the items in this list and were also asked to state whether the intervention named was carried out because they wanted



to improve their dwelling or to prevent its deterioration. This list is presented in Tables 5.1.1 and 5.1.2.

**Table 5.1.1**  
**Household intervention - Improvements**

<u>Improvement activity</u>
Adding room/s as extensions
Adding an internal toilet
Adding an internal kitchen
Constructing an outdoor toilet
Constructing an outdoor kitchen
Converting a space into an other use
Constructing a fence or gate
Installing a new ceiling
Adding a porch / canopy
Providing hedges / lawn
Providing an outdoor water pipe
Electrical wiring / fittings
Providing electric meter
Painting internally
Painting externally
Constructing a well
Providing hand rail / dummy wall
Constructing a drive / paving outdoor areas
Constructing surface water drains
Providing fixed furniture
Decorations : Arts and craft
Providing carpets, rugs and floor linings
Installing water tank
Installing new doors / windows
Reinforcing doors / windows
Repositioning doors / windows
Installing internal plumbing
Tiling walls / floors
Installing household appliances
Constructing new stairs / steps
Providing covered walk
Adding a garage / shed / retail kiosk
Knocking down existing walls
Constructing new walls / partitioning
Fixing window / door curtains
Internal furnishings
Telephone installation
Screeding floors
Providing mosquito nets to windows
Installing roof gutters
Plastering internal walls
Plastering external walls

**Table 5.1.2**  
**Household intervention - Maintenance and repairs**

<u>Maintenance activity</u>
Repainting internally
Repainting externally
Re plastering / repairing internal walls
Re plastering / repairing external walls
Repairing ceiling
Repairing roof
Repairing doors / windows
Reupholstering furniture
Repairing floors
Replace / repair electrical wiring / fittings
Plumbing repairs
Repairing fixed furniture
Residing the house
Repair of wall / floor tiles
Repair fence/gate
Emptying cesspit
Repairing drives / paved areas
Repairing surface water drains
External toilet repairs
External kitchen repairs

### 5.3 ANALYSIS OF OVERALL INTERVENTION SCORES

Tables 5.2.1 to 5.2.4 gives the total household intervention scores for all interventions (HITOTAL), improvements (HIMPROVE), and maintenance (HIMAINT), for the three residential groups, private owner occupiers (PO), renters in the public low-cost housing (PH), and renters in private housing (PR). The figures reveal that the total intervention scores in each case were higher for HITOTAL than for HIMPROVE and HIMAINT and that HIMAINT is lower than HIMPROVE for all cases, and below 50% of its value. This indicates that the residents of Kisumu scored more on improvements than on maintenance and suggests that they are more apt to carryout improvements than maintenance.

**Table 5.2.1**  
**Total sample - Household intervention scores**

	<u>Min.</u>	<u>Max.</u>	<u>Mean</u>	<u>Median</u>	<u>Std. de</u>
HITOTAL	30	137	77.5	75.0	24.3
HIMPROVE	8	99	54.4	55.5	19.1
HIMAINT	0	60	23.8	24.0	14.9

n = 94

**Table 5.2.2**  
**Household intervention scores**  
**Owner occupiers (PO)**

	<u>Min.</u>	<u>Max.</u>	<u>Mean</u>	<u>Median</u>	<u>Std. dev.</u>
HITOTAL	89	115	101.8	102	7.7
HIMPROVE	50	99	72.8	72	12.5
HIMAINT	10	57	31.6	31	12.2

n = 21

**Table 5.2.3**  
**Household intervention scores**  
**Renters- Public low-cost housing (PH)**

	<u>Min.</u>	<u>Max.</u>	<u>Mean</u>	<u>Median</u>	<u>Std. dev.</u>
HITOTAL	41	121	79.9	76	17.6
HIMPROVE	26	74	57.6	58	9.7
HIMAINT	0	60	22.2	17	15.6

n = 25

**Table 5.2.4**  
**Household intervention scores**  
**Renters - Private housing (PR)**

	<u>Min.</u>	<u>Max.</u>	<u>Mean</u>	<u>Median</u>	<u>Std. dev.</u>
HITOTAL	30	137	65.6	60.0	24.0
HIMPROVE	8	95	44.7	43.0	18.8
HIMAINT	0	51	21.3	18.5	14.7

n = 48

The above tables also indicate that the mean scores for HITOTAL, HIMPROVE and HIMAINT are higher for owner occupiers than for renters, while those for renters in private housing are the lowest. This suggest that owner occupiers intervened more in their housing than renters, and for the latter group, those in the public low-cost housing intervened more than those in private rented housing.

#### 5.4 IMPROVEMENT ACTIVITIES

In this section each improvement will be looked at given the number of households who undertook them for the total sample and for the three residential groups, PO, PR

and PH households. The percentages given are those for the total sample surveyed as shown in Appendix(B) The frequency, percentage, mean, median and standard deviation for each intervention are also given in the Appendix. In Appendix(C), plans of the dwelling units surveyed are presented showing some of the improvements made by households in the sample. Appendix (D) also shows photographs of some of the dwellings in the study and serves to illustrate some of the improvements made by the households.

### **Additions as extensions to R's dwelling**

In the survey six households (6.4%) reported that they had added rooms as extensions to their homes and of these, four (19.1%) were PO household, two were PR households and no PH households carried out this activity. Of the four PO households, one household (PO09) added a wing consisting a kitchen, garage and veranda as an extension to their dwelling Two households (PO10 and PO19) added one bedroom each to their dwelling while another (PO13) added two new bedrooms. Of the two PR households one (PR26) added a bath and a kitchen and the other (PR29) added a kitchen,between their dwelling and their outdoor toilet. Both these PR households undertook these activities with the permission of their landlords. These activities were less common, but highly valued with a mean (important/expensive) value of 7.17 (see Tables 5.3.1 and 5.3.2). Fig. 3 in Appendix (D) shows a photograph in which a household is adding an extension to their dwelling consisting a parlour and a bedroom.

Fourteen (14.9%) households had constructed outdoor toilets in their compound, six were PO households and eight were PR households. Of the PR households two extended their toilets while six households constructed new toilets. No PH household in the sample carried out these activities, which were more frequently reported than additions as extensions but less valued, with a mean value of 6.71.

Eleven (11.8%) households had constructed outdoor kitchen in their compounds and of these seven were PO households, and four were PR households. This activity had a mean value of 7.27. Nine households reported that they added a garage, shed or retail kiosk in their compound, separate to their dwelling units. Of these five were PO households, one PR household and three PH households. Three of the PO households (PO05 PO17 PO18), two PH households (PH02 PH03) and the PR household (PR34) constructed a retail kiosk in front of their homes. PO15 and PH05 constructed a carport at the side of their dwelling, and PO09 and PO14 households constructed a garage. This activity had a mean value of 6.67. Fig. 4 in the Appendix shows a retail kiosk constructed by PH03. Adding a garage, shed or kiosk was valued the lowest among in additions as extension of their dwellings but the third most common. The most

frequently occurring activity was the construction of outdoor toilets with 14.9% of the sample undertaking it.

#### **Adding an internal toilet or kitchen**

Five (5.3%) households were found to have added internal toilets in their homes and of these, three were PO households (PO10, PO12 and PO20) and two were PR households (PR26 and PR46). No PH households had carried out this activity, and similarly for the addition of an internal kitchen in their homes. Four (4.3%) households who reported that they had added an internal kitchen to their homes, three were PO households (PO06, PO09 and PO20) and only one PR household (PR26). The values attached to these two activities varied considerably, with the addition of an internal toilet being the most valued of all improvement activities. The mean values for the addition of an internal toilet and an internal kitchen were 8.00 and 6.00 respectively.

#### **Converting a space to another use**

In our sample eleven (11.8%) households reported that they had converted a space in their dwelling from one use to another. Of these five were PO households. (PO06) converted a bedroom into a dining room and knocked down part of the wall between the dining and parlour. Another, PO01 converted a store into a kitchen, while PO09 converted one of the bedrooms adjacent to the parlour into a dining room and constructed a wing with garage, kitchen and veranda. The other PO02 converted an internal kitchen into a bedroom and constructed a new outdoor kitchen. The last of these households (PO20) converted a front bedroom into a bread shop and constructed a bakery as an extension to their outdoor kitchen.

Three of the households were PR households. One household (PR47) converted a store into a bedroom and provided a curtain to the bedroom entrance from the dining for privacy. Another household (PR46) converted a pantry into a dining room and reduced the toilet to allow for an additional corridor. The other household (PR42) converted a bedroom into a front grocery shop. Three PH households (PH07, PH12 and PH13) converted their internal kitchen into a pantry or store and cooking was done outside or in the back veranda when it rains. Plans of the dwellings mentioned above are presented in Appendix C.

Some of the conversions involved physical adaptations of the dwelling units while in some adaptations are minimal but required the reorganisation of space. A mean value of 6.25 for these activities was obtained corresponding to very important/inexpensive and valued lower than additions as extension and the addition of an internal toilet but higher than adding an internal kitchen.

### **Adding a porch / canopy**

Only one household, an owner occupier (PO07), in the whole sample was found to have added a porch to his dwelling located on the first floor of a two storey building. The porch was constructed on the landing from his dwelling on the external stairs and the reason given was primarily to improve his dwelling and to prevent rain penetration that had caused severe problems during the rainy seasons. This activity is very uncommon among low-income families of Kisumu and was the second least valued item of improvements with a mean intervention value of 4 corresponding to important/expensive.

### **Constructing a fence/gate**

Nineteen (20.2%) of the households in the sample were found to have constructed a fence and/gate around their dwelling, and of these fifteen had constructed a fence around their dwelling unit and four households had added gates to an existing fence. Among those who constructed new fence around their dwelling unit seven were owner occupiers, one was a PR household, and seven were PH households. The four households who added new gates to their existing fence were all PR households. Different materials were used as fencing materials. These include 'sandcrete' blocks, the most common, bricks mainly used by PH households to match the external walls of their dwelling units, corrugated iron sheets and wooden posts. Metal gates were predominantly used in brick or block walls, while gates made out of corrugated metal sheets were used in wooden and corrugated metal fencing. The mean HI value for this item of improvement activities was 6.21. Figs. 5, 6 and 7 in Appendix (D) show two the dwellings of two households. Fig. 5 shows the dwelling of PO14 who constructed a wall around their dwelling with two gates one for entrance to the compound and the other an entrance to the garage. Figs. 6 and 7 show the dwellings of PH06 and PH20 households respectively.

### **Installing new ceiling**

Nine (9.7%) households installed new ceiling in their dwelling and of these seven were PO households. The other two were a PR household and a PH household. The reason given by each household for undertaking this activity was to improve their dwelling. The number of households who carried out this activity was low because most households interviewed said they had found a ceiling already installed in their dwelling when they moved in. The intervention was highly valued with a mean intervention value of 7.11 roughly corresponding to very important/expensive.

### **Planting hedges/lawn/garden**

This activity was quite common among the low-income households surveyed with thirty (32%) undertaking them. The households were predominantly PH households. Twenty-one, i.e. 84% of all PH households carried out these activities, seven (14.6% of PR households) and only two were (9.5% of PO households). These results indicate that renters are more apt to carryout these activities than owner-occupiers. These activities were however the least valued with mean intervention value of 3.47.

### **Providing outdoor water pipe**

This activity involved households installing a private outdoor water tap for obtaining water within the compound and could be in addition to taps already installed within the dwelling. Nine households (9.7%) were found to have carried out this activity, and of these eight were PO households . Only one renter in private housing carried out this activity and no PH household was found to have carried out this activity. For those PH households who did not have water service in their dwelling, communal water taps were provided for their use. This activity was highly valued with a mean intervention value of 7.44.

### **Electrical wiring and installing electric meter**

Twenty-eight (29.8%) households in the sample reported that they had either carried out new electrical wiring to the whole dwelling or had extended the existing wiring. Six (28.6%) PO households had carried out this activity, and of these two installed new electrical wiring to the whole dwelling, and four carried out extension works. Eleven (22.9%) PR households carried out this activity of whom four households installed new wiring to the whole dwelling and seven extended the existing wiring. Eleven (44%) PH households also carried out these activity but were all extensions to existing wiring.

Eighteen (19.2%) households reported that they had installed a new electric meter. Six (28.6%) were PO households, nine (18.8%) PR households, and three (12%) PH households. Of all the PO and PR households who wired the entire dwelling also installed electric meters. Four PR households who installed electric meters had found their dwelling already wired. It is the practice of some landlords to carryout electrical wiring to a newly completed building leaving the responsibility of installing an electric meter to their new tenants as in the case of some of the newly completed public low-cost housing units in Kisumu. Some tenants who had previously provided electric meters may remove them when moving out of the dwelling. The mean intervention values for electrical wiring and installing electric meter were 6.18 and 6.50 respectively.

### **Internal and external painting**

First painting carried out after the household moved into their dwelling were all identified as improvement activities. Fifty-seven (60.7%) households in the survey painted the inside of their dwelling and of these fourteen (66.7%) were PO households, twenty-two (45.8%) were PR households and twenty-one (84%) were PH households. Fewer households painted the outside of their dwelling with thirty-nine (41.5%) carrying out this activity and of these. Twelve (57.1%) were PO households, thirteen (27.1%) PR households and fourteen (56%) PH households. The drop in the number of households who carried out external painting was lowest for PO households (9.6%) and (18.7%) for PR households. The highest drop (28%) was for PH households. Private owner occupiers painted both the inside and outside of their dwellings than renters, and fewer renters in public low-cost housing painted both the inside and outside of their dwellings than renters in private housing. These results reflect the type of dwellings surveyed. Of the 25 public low-cost housing units surveyed, fourteen (56%) were brick construction, while about 80% of private dwellings had external walls constructed with 'sandcrete' blocks with regular plaster finishing. Internal painting was highly valued than external painting. The mean intervention values for internal and external painting were 6.88 and 6.13 respectively.

### **Plastering internal and external walls**

Five (5.3%) households in the sample plastered the inside of their dwellings after they first moved in. Three were PO households and the other two were PR households. No PH household reported to have plastered the inside of their dwellings. Only three (3.3%) households plastered the outside of their dwelling and were all PO households. Of the three PO households who plastered the inside of their dwelling two also plastered the outside of their dwelling. Internal plastering was on the whole was more valued than external plastering with mean intervention values of 7.25 and 5.33 respectively. Plastering of walls were more valued than painting.

### **Constructing a water well**

Only one household in the total sample reported that they had constructed a water well in their compound. The household was owner occupier who valued it as very important and expensive. Building plots in Freetown are usually very small and the construction of a well will require a large plot of land in order that wells can be located far from effluent waste. It is therefore not surprising to find that only one private owner-occupier carried out this activity. The poor water supply the Kissy area may reflect the importance of this item to the residence.



### **Providing hand rail/dummy wall**

Nine households (20.2%) said they had installed metal hand rails in stairs or in verandas, or dummy walls mainly in their verandas. Of these four were PO households. One household constructed a dummy wall in the front veranda, two constructed metal handrails on external stairs, while another constructed metal hand rails in the front veranda.

Two PR households reported that they had carried out this activity. One household constructed dummy walls about 3ft. high in the front and back verandas, while the other constructed a metal hand rail in the internal stairs leading to their first floor dwelling. Three PH households undertook these activities. Two households constructed brick dummy walls with clustered blocks in-fills about 1m high in both front and back verandas, while the other household constructed a metal hand rail in only their front veranda. See Fig. 8 and Fig. 9 in Appendix (D) showing two dwellings (PH17 Ph18) in which these items were provided by the households. The mean intervention value for these activities was 6.25 and was valued very important but inexpensive.

### **Constructing drives, paved areas and surface water drains**

Twenty-seven households in the survey either constructed a drive and/or paved part of their yards. Seven of these were PO households. Two households constructed a drive and one household constructed a drive and paved part of their yard as well. The other four households only paved part of their yards. Five PR households carried out these activities and only one household constructed a drive and also paved part of their yard. The other four households only paved part of their yards.

Fifteen PH households constructed a drive and/or paved part of their yards. Three households constructed a drive along the side of their dwelling and two households provided paving slabs in front of their dwelling as walk-way from the street. The other ten households paved all or part of their back yards.

In total nineteen households constructed surface water drains in their compounds. Of these eight were PO households and only three households who carried out this activity either constructed a drive or paved part of their yards. Nine PR households constructed surface water drains and of these two either constructed a drive or paved part of their yards. Only Two PH households carried out this activity and both also paved their back yards.

On the whole more households had either constructed a drive or paved their compound than constructing surface water drains. Constructing drives and/or pavements were more valued than constructing surface water drains. The mean intervention values were

6.15 and 4.37 respectively. The two activities were almost equally common among PO households but constructing surface water drains was more common among PR households, while constructing drives and pavements were more common among PH households.

### **Internal furnishings**

Forty-one households in the sample provided fixed furniture in their homes which include wardrobes, cabinets, cupboards, shelves etc. These items were all firmly fixed to the building. Of these households twelve were PO households, twenty-four were PR households and only six were PH households.

Fifty households reported that they had decorated their homes with arts and craft of various kinds. Of these eight were PO households, twenty-seven were PR households and fifteen were PH households.

Fifty-seven households reported that they had provided carpets, rugs or floor linings in their homes. Nineteen (90.5%) were PO households, thirty-one (64.5%) were PR households and only seven (28%) were PH households.

Thirty-seven households installed fridge, stoves etc., but excluding radio sets, musical instruments, television etc. Six (28.6%) were PO households, eight (16.7%) PR households and twenty-three (92%) PH households.

Sixty-eight households in the survey provided curtains to doorways and or windows. Fifteen (71.4%) were PO households, thirty-eight (79.2%) PR households and fifteen (60%) PH households.

By far the most common activity undertaken by all groups was the provision of internal furniture (movable) and include settees, tables, chairs, movable wardrobes etc. Eighty-seven households carried out this activity and of whom all PO households, forty-three (89.6%) PR households, and twenty-three (92%) PH households. Those that did not carry out these activities were all renters who had found their dwellings already furnished.

Providing internal furniture is by far the most common activity carried out by the households in the survey and was also the most valued among all the activities classified under internal furnishings, with a mean intervention value of 7.31. The least common activity was providing household equipment even though it was valued higher than Arts and Craft. The mean intervention value for providing household equipment and arts and craft were 6.27 and 4.48 respectively.

Internal furniture appears to be the most common activity for all residential groups, while providing carpet, rugs or floor linings is most common among PO households and least common among PH households. This trend is also apparent with providing fixed furniture. Providing arts and craft on the other hand appears to be more common among renters than owner occupiers.

### **Installing water tank**

Five households reported that they had installed water tanks in their dwellings. Three were owner occupiers and two were PR households. Among PO households who carried out this activity, PO06 provided an internal kitchen, PO12 provided an internal toilet while PO02 did not provide any of these facilities. PR26 had also provided internal toilet and kitchen but PR45 did not provide any of these facilities. No PH household was involved with this activity.

Even though this activity was not very common it was nonetheless highly valued, the third most valued among all improvement activities with a mean intervention value of 7.60 after adding an internal toilet and installing a telephone.

### **Improving windows and doors**

Sixteen households in the survey reported that they had either added new doors or windows to their dwellings. Five were PO households. PO05 added a new window in their parlour and PO12 installed a new door from their kitchen leading into the pantry that had been formed by partitioning the kitchen. The other household (PO03) added a new window in their parlour, another (PO17) installed a new door leading from the parlour into the back yard while PO18 installed a window in each of two bedrooms.

Six PR households either installed a door or window in their dwelling. Three households (PR07 PR10 PO14) installed doors in their outdoor kitchens, PR12 added a new door in their veranda leading to the stairs, another (PR15) installed a window in their parlour. PR38 installed a window in one of their bedrooms.

Five PH households either installed a door or a window and amongst these, PH02 installed a window in their outside kitchen, PH08 and PH11 installed a door leading from their kitchens into their back verandas. PH14 installed an outside door from their kitchen into the garage, while PH21 installed a door in their outdoor kitchen.

Fifty households were found to have reinforced either their windows and/or doors. These activities include installing metal bars or meshed wire to windows, additional locks to doors and windows etc. Of these eight were PO households, twenty were PR households and twenty-two were PH households.

Nine households repositioned either their doors or windows. Of these four were PO households. One household (PO05) repositioned an outside door of one of their bedrooms so that it opened direct into the parlour, and another (PO10) repositioned a window in their kitchen before adding a store next to their garage. PO18 repositioned a door in the outside wall and added a window in its former place, while PO15 repositioned a door in one bedroom. Five PR households carried out these activities. PR01 moved a door in the parlour leading into the veranda into the wall separating the parlour and the kitchen and PR15 moved a bedroom window when the space between the back veranda and the outdoor kitchen was covered. PO16 interchanged a door and a window in the front veranda. PR45 repositioned their store door, while PR46 repositioned the dining room door. No PH household carried out these activities.

It can be seen from these results that over 50% of all households in the survey had reinforced doors and/or windows and the reason most commonly cited apart from improving the quality of the building was for security. This activity was far more common than adding new doors and/or windows to their dwellings which was the least common and least valued with mean HI value of 5.50. Reinforcing doors and windows which was the most common activity among the three was also the most valued with mean HI value of 6.98. Adding new doors and/or windows was closely valued to reinforcing doors and windows with mean HI value of 6.75.

### **Internal plumbing**

Four households carried out plumbing in their dwellings. Three were PO households and one was a PR household. One PO household installed a tap in their kitchen, another installed a shower in their outdoor toilet, while the other installed a shower over an existing bath. The only PR household who carried out this activity raised a low level tap in their toilet to operate as an overhead shower.

Installing internal plumbing in existing dwellings during occupancy is not quite common among the residents of low-income housing of Kissy. The activity was, however, highly valued as its mean HI value of 7.00 indicates, corresponding to very important and expensive.

### **Tiling of walls and floors**

The most common tiles used were cement floor tiles which are locally manufactured. Some households used these tiles to cover the whole floor of their dwelling. Some used them in their toilet or baths only. Nineteen households carried out these activities. Three were PO households. One household provided cement floor tiles in their toilet and shower, another provided similar tiles in their parlour, bedroom and communal veranda. The other laid similar tiles in only their parlour, corridor and kitchen. Only two PR households carried out this activity with one household providing cement floor

tiles and glazed wall tiles about 1.5m high in their toilet, and the other cement floor tiles in their parlour.

Fourteen PH households provided wall and floor tiles in their dwellings. One household provided cement floor tiles in their parlour and corridor, four provided cement floor tiles in their toilet or shower/WC, another four provided cement floor tiles in only their parlour. One household laid cement floor tiles in both their kitchen and shower/WC, and another laid PVC floor tiles in their parlour, corridor and master bedroom and cement floor tiles in the kitchen and shower/WC. One household also laid cement floor tiles and used glazed wall tiles in their shower/, while the other laid PVC floor tiles in their parlour, corridor and the only bedroom they had.

This activity was quite common with about 20% of the sample undertaking it. It is, however, surprising to find from the results that those who carried out this activity were largely PH households making up about 74%. This activity was also highly valued, the fifth most valued improvement activity, with a mean HI value of 7.32.

#### **Constructing new stairs and steps**

Only one households reported that they have constructed few steps from their front veranda into their front yard, and another from the back veranda into their back yard. The households was a renter in private housing. Some PO households constructed stairs that led to another floor but since it was for the exclusive use of other households the activity was not included in the study. This activity was a very uncommon improvement activity. Most households moved into their dwellings which already had stairs or steps as part of their dwelling units and therefore had no need to construct new ones or at least did not feature prominently in their priorities. The only household who carried out this activity valued it highly with a HI value of 7.00 corresponding to very important and expensive.

#### **Knocking down existing walls**

Only three households reported that they knocked down their walls, and both households were owner occupiers. Two households (PO06 and PO09) knocked down part of the wall that separated their parlour and dining room, while the other (PO02) knocked out an opening in their dining room wall to open into their corridor. This activity is also uncommon among low-income households of Kissy with only 3.3% of the total sample undertaking it as compared to 6.4% for adding rooms as extensions to their dwellings which itself was not common.

### **Constructing new walls**

Four households undertook these activities. Two were PO households and the other two were PH households. One household (PO03) constructed a wall in their parlour to shield the kitchen entrance and another (PO12) constructed a partition in their kitchen to provide room for a pantry. A PH household (PH10) also constructed a wall in their parlour while the other (PH22) constructed a wall to prevent the direct entry of sunlight and rain penetration in their back veranda. This activity was also not quite a common improvement activity with only 4.3% of the sample undertaking it, but was highly valued with a mean HI value of 6.75 even though not as valued as adding rooms as extensions.

### **Screeding floors**

Sixteen households reported that they had screeded all or part of their dwelling after moving in. The screeding was more often sand/cement mortar laid to a thickness of about 2 inches as described by most households. Six of these households were owner occupiers. One household screeded their back veranda, two screeded all of their back stairs, and another two screeded their outdoor kitchens and its veranda. Ten households were renters in private housing and no PH household was involved in these activities. Two of the ten PR households screeded their parlour, another two screeded their front veranda which had developed cracks, three screeded their kitchens, one screeded their front and back verandas, another screeded their shower while the last of them screeded the inside of their dwelling including the front veranda. While this improvement activity was relatively common, it was less valued with a mean HI value of 5.81.

### **Providing mosquito netting to windows/doors**

Only four households installed fine wire mesh blinds in their dwellings to prevent mosquitoes entering. Two were PO households, one was a PR household and the other was a PH household. The two PO households fitted fine wire mesh blinds to their windows. The PR household fitted similar blinds but to only two of their bedroom windows and were planning to install them on the remaining windows, while the PH household fitted these blinds to all their windows and also fitted secondary swing doors with these blinds to the outside doors. Even though this activity was also relatively uncommon with only 4.3% of the total sample carrying it out, it was also not highly valued with a mean HI value of only 5.75.

### **Installing roof gutters**

No household had completely replaced their roof although they had carried out repairs which are dealt with in the next section. Improvements made to the roof was the installation of roof gutters to trap rain water and direct it to either a water tank or allow it to discharge freely into containers and taken into the house for storage. The gutters

were all made from thin metal sheets or from the corrugated metal sheets used predominantly as roof covering.

Thirteen households reported that they had undertaken these activities. Four of these were PO households. One of the households installed a roof gutter to trap water which was directed to an overhead tank which they had installed. The other three installed roof gutters with open discharge. The other nine households were all PR households. Seven installed roof gutters with open discharge from which water was collected. The other two installed similar roof gutters but directed the water to an overhead water tank which served an inside toilet and shower through a 20mm diameter galvanised steel pipe.

This activity was relatively less common. One would expect more households to carry out this activity because of the poor water supply in the neighbourhood frequently reported (seen chapter 7) and that households had to improvise in order to obtain water for domestic purposes. The activity was also not highly valued with only 5.77 mean HI value. The relatively low cost in installing these items may have influenced its value.

#### **Provision of covered walk**

Five households constructed covered walks between their dwellings and outside amenities. These covered walks span only over short distances and consisted of free-standing posts either in hollow metal tubes or timber to support a corrugated metal sheet roof which were either gabled or mono-pitched. These covered walk protected the household from rain while trying to get to outside amenities. Three of these households were owner occupiers while the other two were renters in private housing. No PH household carried out this activity. Even though this activity was not quite common it was relatively highly valued with a mean HI value of 6.8.

### **5.5 MAINTENANCE AND REPAIRS**

Twenty activities are considered under maintenance and repairs. Activities such as repainting and re plastering have been classified into two categories, internal and external works. Even though some households carried out both works at the same time, there were others who carried them out separately and some carried out one and missed out on the other. It was only reasonable that we consider the two activities separately. The need to categorise these activities may very well give valid insight about how the various households undertook these activities. The following sub-sections describe the various maintenance and repair activities recorded during the survey.

### **Internal and external repainting**

Forty-six households reported that they had repainted the inside of their dwellings and of these fourteen were PO households, nineteen were PR households and thirteen were PH households. Eighteen households had repainted the outside of their dwellings. Three were PO households, five were PR households and ten were PH households.

Those who repainted the outside of their dwellings were less than half of those who painted the inside of their dwellings. One would therefore say that repainting the inside is a much more common activity than repainting the outside of their dwellings. What was also observed from the survey is that two out of the three PO households who repainted the outside of their dwellings also repainted the inside. Also all five of the PR households who repainted the outside of their dwellings also repainted the inside, and nine of the ten PH households who repainted the outside of their dwellings also repainted the inside. These results suggest that households who repaint the outside of their dwellings are most likely to repaint the inside as well. Since the numbers of households involved are quite small, further studies are needed to test such a hypothesis. These results can best be viewed as hypothesis rather than fully tested ones.

Even though repainting the inside of their dwellings was a much more common activity than repainting the outside, the latter was slightly more valued than the latter (6.72 versus 6.46).

### **Re plastering internally and externally**

Fewer households were involved with these activities compared to the repainting of their dwellings. Only two households re plastered the inside of their dwellings. One was a PO household and the other was a PR household. Five households re plastered the outside of their dwellings and of these, two were PO households and three were PR households. No PH household was involved with these activities.

These two activities are not common, and of the two, more households re plastered or repaired the inside of their dwellings. This activity was also very highly valued and all those who carried it out reported a maximum HI value of 8.00 corresponding to very important and very expensive equal only to adding an internal toilet as improvement to the dwelling. The mean HI value for re plastering or repairing internal walls was much lower (5.50).

### **Repairing ceiling**

Twenty-four households repaired their ceiling during their stay in their present dwelling. Of these seven were PO households, fifteen were PR households and only two were PH households. Relatively, this maintenance and repair activity was quite



common, after only external toilet repair, repairing roof, emptying septic tanks/cesspits, repairing doors and windows, and repainting the inside of the dwelling. It was also highly valued with mean HI value of 6.71.

### **Repairing roof**

Thirty households repaired the roof of their dwelling. Ten were PO households, fourteen were PR households and six were PH households. Repairing roofs was also a popular maintenance and repair activity among the low-income households of Kisumu. It was more so among owner occupiers than renters with almost half reporting that they had carried out repairs to their roof since moving into their current dwelling. This activity was also highly valued with a mean HI value of 6.70.

### **Repairing doors and windows**

This activity does not include the complete replacement of the door or window and its frame which is covered under improvements, but include replacement of parts of the door or window and its frame, and in-fill in both etc. Forty-six households carried out these activities. Of these twelve were PO households, twenty-four were PR households and ten were PH households.

Repairing doors and/or windows was the most common maintenance activity equalled only to the repainting of the inside of the dwellings, with over half (57.1%) of PO households, half of PR households and 40% of PH households involved. It was also the second most valued activity after re plastering or repairing outside walls, with mean HI value of 7.21.

### **Reupholstering furniture**

Fifteen households reupholstered their furniture who were either PO households or PR households. No PH household carried out these activities. Of the fifteen households who carried out these activities five were PO households and ten were PR households. It is surprising to note that no PH household had reupholstered their furniture and only households in private housing (PO and PR) were involved in this activity, which was also not highly valued, with a mean HI value of 5.60.

### **Repairing floors**

This activity include sealing cracks and joints and in some cases screeding over floors which had developed faults during the tenancy of the present household. Screeding over floors which had cracks prior to the household moving into their dwelling are not included in this activity and has already been dealt with under improvements in the previous section. Fifteen households carried out these activities, of whom six were PO households, five were PR households and four were PH households.

This activity was just as common as screeding floors under improvements. (16.9%) of the total sample carried out the later activity as compared to 16% for the former. However, repairing floors was more valued than screeding floors as an improvement activity. The mean HI values were 7 and 5.81 respectively. It is worth noting that both these activities were less valued than tiling floors in improving the quality of the dwelling which had a mean HI value of 7.32.

### **Replacement/repair of electrical wiring and fittings**

These activities covered the repair and replacement of faulty wiring and fittings but where the replacement involved the extension of the existing wiring it was considered as improvements. The replacement of electric lamps and fuses were not considered. Some households reported that they had to change their wiring because of attack from rats. Most wiring were unprotected and not run in conduits. Other households reported to have changed faulty sockets and switches and lamp holders etc. Nineteen households carried out these activities. Of these two were PO households, seven were PR households and ten were PH households.

This activity was more common among PH households with 40% of them undertaking it, compared to 14.% for PR households and 9.5% for PO households. It had a mean HI value of 6.63 which was higher than for the provision of electric meter and electrical wiring as improvement activities with mean HI values of 6.50 and 6.18 respectively.

### **Plumbing repairs**

These activities include the repair or replacement of broken pipes, fittings etc. However, the un-blocking of drains was not covered in the study. Most common activity was the repair or replacement of taps. Repair of WC cisterns was also common among households who had WCs in their homes. Due to the intermittent supply of water reports of rust in pipes and fittings was quite common and some households reported that they had replaced the pipes or fittings after a long period of disruption in the water supply.

Twenty households carried out these activities and three were PO households, nine were PR households and eight were PH households. With 21.4% of the total sample involved in this activity, makes it relatively a common maintenance activity. The activity was much more common among PH households with 32% of them undertaking it. It was also more common among PR households than PO households with 18.8% and 14.3% of the households undertaking it respectively. The activity was also highly valued with mean HI value of 6.76. Its value was nonetheless slightly lower than that for internal plumbing under improvement activities with mean HI value of 7.00.

### **Repairing fixed furniture**

These activities include the repair of all furniture firmly fixed to the building fabric such as built-in wardrobes, shelves, kitchen cupboards etc. Only four households reported that they had carried out repairs on these items and were either owner occupiers or renters in private housing. Two of these were PO households.

This activity was very uncommon with only 4.3% of the sample undertaking it, compared to 43.7% for the provision of fixed furniture as an improvement activity. It was also less valued with mean HI value of 5.00 compared to 5.54 for providing fixed furniture.

### **Residing the house**

This activity usually involved pouring concrete or laying concrete slabs between open surface water channels and the external walls of the dwelling. Only four households reported that they had carried out these activities and were all owner occupiers. It is relatively an uncommon activity and also less valued with mean HI value of 5.00.

### **Repair of wall and floor tiles**

This activities involved mostly the replacement of broken floor or wall tiles in the dwelling. They also involve the fixing of loose tiles. Two households were involved in these activities and were all owner occupiers.

Repairing wall and floor tiles was also an uncommon activity with only 2.2% of the total sample undertaking it. It was also far less common than the initial tiling of walls and floors in improving the dwelling for which 20.2% of the sample was involved. It was also less valued with mean HI value of 6.50 as compared to 7.32 for the initial tiling of walls and floors.

### **Repair of fence and gate**

Four households reported that they had either repaired their fence and/or gate . Three were owner occupiers. The other household was a renter in private housing. No renters in public low-cost housing had carried out these activities.

This activity was less common than constructing a fence and/or gate as an improvement activity with only 4.3% of the total sample undertaking it compared to 20.2% for the latter. It was also less valued, with mean HI values of 5.0 and 6.21 respectively.

### **Emptying septic tank or cesspit**

Quite a number of households reported that they had emptied their septic tanks or cesspits at least once since moving into their present dwelling. Thirty-six households

were involved and of these fifteen were PO households, nineteen were PR households and two PH households.

This activity was quite common with 38.2% of the total sample undertaking it. It was more so among PO households of whom 71.4% carried it out. It was also quite common among PR households, but uncommon among PH households with 39.6% and 8% of the households involved respectively. The activity was highly valued with a mean HI value of 6.72.

#### **Repairing drive/paved areas**

These activities include the sealing of cracks in drives/pavements, replacement of paving slabs etc. Only two households reported that they had carried out these activities and were all PR households. Repairing drives and/or paved areas appears to be very low among the household intervention priorities with only 2.2% of the total sample involved. This figure compared to 28.7% for constructing drives and/or paved areas suggest that these households are more likely to carryout improvements in these activities than maintaining them. Constructing drives and/or paved areas was also more valued than the repair of these items. The mean HI values were 6.15 and 5.00 respectively.

#### **Repairing surface water drains**

Only five households were found to have carried out these maintenance activities. Three were PO households and two were PR households. No PH households reported that they had carried out these activities. Similarly, repairs to surface water drains was much less common than the construction of these drains as improvement activities with only 5.4% of the total sample involved compared to 20.2% for constructing the drains. Both these activities were more common among PO households with 38.1% and 14.3% of the households involved with the construction and the repair of the drains respectively. The activities were less common among PR households with 18.8% and 4.2% of the households involved respectively. PH households were least involved with these activities with 8% and 0% of the households undertaking them respectively. It is surprising to note that even though repairs to these drains were less common, they were more valued than constructing the drains. The mean HI values were 6.0 and 4.37 respectively.

#### **Repair to outdoor toilets and kitchen**

The repair and maintenance of outdoor toilets and kitchen have been kept separate to the dwelling unit and involved the repair and maintenance to the complete structures and their fabrics. Twenty-five households reported that they had carried out repairs to their outdoor toilets. Eight were PO households, nine PR households and eight PH

households. Fourteen households made repairs to their outdoor kitchen, and were either owner occupiers or renters in private housing. Eleven were PO households and three were PR households.

The construction of and repairs to outdoor toilets were more common activities among low-income households of Kisumu than the construction of and repairs to outdoor kitchens. Of the total sample, 26.6% and 14.9% of households were involved with the construction of and the repairs to outdoor toilets respectively, while the figures were 14.9% and 11.8% for the construction of and repairs to outdoor kitchens. All four activities were most common among PO households and least common among PH households. Even though the construction of outdoor toilets and kitchens were less common than the activities involving their repairs, they were more valued. The mean HI values for the construction of and the repairs of outdoor toilets were 6.71 and 5.8 respectively. Those for the construction of and repairs to outdoor kitchens were 7.27 and 5.00 respectively. The construction of an outdoor kitchen was more valued than the construction of an outdoor toilet, but conversely, the repair of outdoor toilets was more valued than the repair of outdoor kitchen.

Table 5.3.1  
Maintenance and repair activities ranked  
according to their values (importance/expensive)

<u>Activity</u>	<u>Mean HI value</u>
Re plastering/repairing external walls	8.00
Repairing doors/windows	7.21
Plumbing repairs	6.76
Repainting externally	6.72
Emptying septic tank/cesspit	6.72
Repairing ceiling	6.71
Repairing roof	6.70
Repairing floors	6.67
Replace/repair elect. wiring/fittings	6.63
Repair of wall/floor tiles	6.50
Repainting internally	6.46
Repair surface water drains	6.00
External toilet repairs	5.80
Reupholstering furniture	5.60
Re plastering/repairing internal walls	5.50
Repairing fixed furniture	5.00
Residing the house	5.00
Repair fence/gate	5.00
Repairing drive/paved area	5.00
External kitchen repairs	5.00

Table 5.3.2  
**Improvements activities ranked according to their values  
 (importance/expensive)**

Activity	Mean HI value
Adding an internal toilet	8.00
Telephone installation	7.86
Installing a water tank	7.60
Providing an outdoor water pipe	7.44
Tiling walls and floors	7.32
Providing internal furniture	7.3
Constructing an outdoor kitchen	7.27
Plastering internal walls	7.25
Adding room/s as extensions	7.17
Installing new ceiling	7.11
Constructing a well	7.00
Internal plumbing installation	7.00
Constructing new stairs/steps	7.00
Reinforcing doors and windows	6.98
Painting internally	6.88
Providing covered walk	6.80
Installing new windows and doors	6.75
Constructing new walls	6.75
Constructing an outdoor toilet	6.71
Adding a garage/retail kiosk/shed	6.67
Providing electric meter	6.50
Providing handrail or dummy wall	6.44
Installing household equipment	6.27
Converting a space into another use	6.25
Constructing a fence/gate	6.21
Electrical wiring/fittings	6.18
Constructing drive/paving outdoor areas	6.15
Providing carpets/rugs/floor lining	6.14
Painting externally	6.13
Adding an internal kitchen	6.00
Screeding floors	5.81
Installing roof gutters	5.77
Providing mosquito netting to windows/doors	5.75
Fixing window and door curtains	5.57
Providing fixed furniture	5.54
Repositioning doors and windows	5.50
Plastering external walls	5.33
Knocking down existing walls	5.00
Providing arts and craft	4.48
Constructing surface water drains	4.37
Adding a porch/canopy	4.00
Providing hedges/lawns/garden	3.47

## 5.6

## SUMMARY

One of the purposes of this study is to develop a technique for quantifying the interventions carried out by low-income families in their housing to enable us to determine whether any relationships exist between household intervention and residential satisfaction. In addition to this, it was also hoped that the technique will provide valid information as to the type of interventions and the extent to which these interventions were carried out by the households in their housing.

To be able to quantify household intervention, it was necessary to categorise the interventions commonly undertaken by residents of low-income housing in Kisumu. These were elicited from responses to a questionnaire by respondents in a pilot study conducted prior to the main study. The final list of interventions derived is, by no means, representative of an exhaustive list of all positive interventions, but is believed to include a wide range of activities that are usually carried out by the residents of low-income housing in Kisumu. Notwithstanding this unavoidable circumstance, one would summarise the findings reported in this chapter as follows:

1. Low-income households of Kisumu in general carried out more improvements in their housing than maintenance.
2. Improvement activities involving structural change of a structural kind such as adding rooms as extensions, constructing outdoor toilets or kitchen, knocking down existing walls, constructing new walls, were less common among low-income households of Kisumu than changes of non-structural kinds such as internal furnishings, painting. Previous studies (Rabeneck, et al, 1974) have suggested that changes of a structural kind have value in achieving long term planning whereas changes of a non-structural kind are normally emphasised in focusing short term planning issues.
3. Owner occupiers carried out more interventions than renters. Among renters, those in public housing intervened more in their housing than those in the private housing.
4. Owner occupiers carried out more improvements and maintenance in their housing than renters.
5. Painting internally as an improvement activity was more common than painting externally and was also more valued. Repainting internally as a maintenance activity was also more common than repainting externally but less valued. Households who repainted the inside of their dwellings are more likely to repaint the outside as well.

6. Constructing an outdoor kitchen was more common and more valued than adding an internal kitchen.
7. Constructing an outdoor toilet was more common among the low-income households of Kisumu than adding an internal toilet but less valued. Adding an internal toilet was the most valued of all improvement activities.
8. The most common improvement activity among the low-income households of Kisumu was the provision of internal furnishings. Fixing windows and door curtains was the second most common improvement activity. The least common improvement activities were constructing a well, adding a porch or canopy to the front door, and constructing stairs or steps. With water supply being one of the most frequently reported feature disliked by the respondents in their housing environment (see chapter 7), one would expect more households constructing wells as alternative sources of water supply.
9. Reinforcing doors and windows was more common than repositioning or installing new doors and windows. This pattern was found among the different residential groups and goes to support the finding reported in item 2 above.
10. Decorating their homes with arts and craft was quite commonly carried out by all residential groups. It was however valued low, but nonetheless more valued than the provision of lawns, hedges or gardens mostly in their front yards. The latter was the least valued of all improvement activities and was carried out by more PH households than PR households.
11. All improvement activities were more valued than the repair of these activities except in the case of the following:
  - a. The repair of doors and windows were more valued than installing new doors and windows.
  - b. The repair of electrical wiring and fittings was more valued than installing electrical wiring and fittings
  - c. Repainting the interior as a maintenance activities was more valued than first painting as an improvement activity
  - d. Repairing floors was more valued than screeding floors as an improvement activity, and
  - e. The repair of surface water drains was more valued than constructing the drains as improvement activity.
12. The two most common maintenance activities were, repainting the inside of the dwelling and repairing doors and windows. The least common were re plastering or repairing internal walls, repair of wall and floor tiles, and repairing surface water drains.



## CHAPTER 6

### TEST OF HYPOTHESES

#### 6.0 INTRODUCTION

In this chapter we report results of tests of the hypotheses presented in chapter 3. Three types of statistical analysis were employed in this study: the Pearson Product Moment correlation, the Chi-square test of association, and the analysis of variance. The choice of a test for each hypothesis was influenced by the nature of the hypothesis in question and the type of scale employed in measuring the variables in the hypothesis.

The chapter begins with the presentation of the scales developed for measuring the variables in the hypotheses and the testing of their internal consistencies and reliability. The internal consistencies of the scales were measured by the item-total correlations while their reliability were measured using their Cronbach alpha values. The following sections deal with the relationship of the outcome variable: residential satisfaction (RS), with the independent variable, household intervention, and the relationships of the outcome variable: household intervention and the other variables predicted as being associated with household intervention. The chapter ends with a summary of the results obtained from the analysis

#### 6.1 DEVELOPMENT OF SCALES

A number of scales were developed from both the questionnaire and the environmental assessment tool by combining as many items as possible believed to be indicators of the variable in question. These scales were then analysed statistically along with other variables to test the hypotheses in this study. The primary scale constructed was the residential satisfaction (RS) scale which represents the dependent variable. The other scales constructed were :

Housing management control HM  
Available resources AR  
Previous housing experience HE  
Preferred housing HP

Residential attachment RA  
 Demographic characteristics DE  
 Household Intervention HI

### Residential satisfaction

The RS scale was constructed by combining five items from the questionnaire each designed to measure the respondent's satisfaction with specific aspect of his/her housing environment. The five items were as follows:

RSCPLAYA Satisfaction with children's play areas.  
 RSSATISK Satisfaction with Kissy area as a place to live  
 RSSATISH Satisfaction with the dwelling as a place to live  
 RSSATSIZ Satisfaction with the size of R's present dwelling  
 RSRECOMK Likelihood of recommending Kissy to someone as a place to live

The RSCPLAYA scale was constructed from the average of four items in the questionnaire which asked questions about the respondents satisfaction with specific areas where their children play in their neighbourhoods. The respondents were asked to indicate how satisfied they were with the following items:

RSCPLAY1 Private play ground  
 RSPCLAY2 Front and back yards of R's home  
 RSCPLAY3 In the streets  
 RSCPLAY4 School play ground.

The following scale was used to measure their responses:

1	Very dissatisfied	3	Satisfied
2	Dissatisfied	4	Very satisfied

Table 6.1.0  
 Satisfaction with children's play areas  
 Inter-item reliability

<u>Variable</u>	<u>Item-total correlation</u>
RSCPLAY1	0.32
RSCPLAY2	0.36
RSCPLAY3	0.37
RSCPLAY4	0.32
Inter-item correlations      n =	
Minimum = 0.16      Maximum = 0.32	
Mean = 0.32 Cronbach alpha = 0.65	

The inter-item correlations were somewhat low with a minimum of 0.16 and a maximum of 0.32. The mean was 0.23. The inter-item reliability are given in Table 6.1.3. The cronbach alpha was found to be 0.65 which is lower than expected. For a reliable measure the cronbach alpha value is usually expected to have a minimum value of 0.7. However alpha is related to the number of items in the correlation such that the higher the number of items the more likely that alpha will reach 0.7 or better (Nunnally, 1978).

The other items included in the construction of the RS scale were:

RSSATISK	How satisfied are you with Kissy as a place to live?
RSSATISH	How generally satisfied are you with your present dwelling as a place to live?
RSSATSIZ	How satisfied are you with the size of your present house in terms of the number of habitable rooms?
RSRECOMK	How likely would you be to recommend Kissy to someone you know as a place to live?

RSSATISK, RSSATISH and RSSATSIZ had the same scales as RSCPLAYA. The dimension on the RSRECMK scale was somewhat different but was constructed as a four-point Licarte scale similar to the other items, which was :

1	Very unlikely	3	Likely
2	Unlikely	4	Very likely.

The frequency distribution shown in Table 6.1.1 indicate that the respondents were generally satisfied with all attributes of their housing with mean satisfaction scores greater than 3.0 which represents 'satisfied' with the attribute, or 'likely' to recommend Kissy to some as a place to live except for the size of their dwelling which had a mean score of 2.84. They were more satisfied with their dwelling than with their immediate neighbourhood as a place to live.

The inter-item correlations between the five items show moderate correlations and the item-total correlations were also moderately high (Table 6.1.2), which indicate that the items are moderately associated with each other although somewhat independent. The cronbach alpha value is also reported as 0.72 which is above the expected minimum value, thereby indicating a reliable measure.

**Table 6.1.1**  
**Frequency distribution satisfaction indices**

<b>Attribute</b>	<b>Scale</b>	<b>Freq.</b>	<b>%age</b>
<b>RSCPLAYA</b>	1. Very dissatisfied	2	2.3
	2. Dissatisfied	9	10.1
	3. Satisfied	51	57.3
	4. Very satisfied	27	30.3
<b>Total</b>		<b>89</b>	<b>100</b>
<b>Mean score = 3.16</b>		<b>Std. dev. = 0.89</b>	
<b>RSSATISK</b>	1. Very dissatisfied	0	0.0
	2. Dissatisfied	6	6.4
	3. Satisfied	64	68.1
	4. Very satisfied	24	25.5
<b>Total</b>		<b>94</b>	<b>100</b>
<b>Mean score = 3.19</b>		<b>Std. dev. = 0.53</b>	
<b>RSSATISH</b>	1. Very dissatisfied	0	0.0
	2. Dissatisfied	7	7.4
	3. Satisfied	58	61.7
	4. Very satisfied	29	30.9
<b>Total</b>		<b>94</b>	<b>100</b>
<b>Mean score = 3.23</b>		<b>Std. dev. = 0.58</b>	
<b>RSSATSIZ</b>	1. Very dissatisfied	3	3.2
	2. Dissatisfied	35	37.2
	3. Satisfied	30	31.9
	4. Very satisfied	26	27.7
<b>Total</b>		<b>94</b>	<b>100</b>
<b>Mean score = 2.84</b>		<b>Std. dev. = 0.87</b>	
<b>RSRECOMK</b>	1. Very unlikely	6	6.4
	2. Unlikely	14	14.9
	3. Likely	34	36.2
	4. Very likely	40	42.6
<b>Total</b>		<b>94</b>	<b>100</b>
<b>Mean score = 3.15</b>		<b>Std. dev. = 0.90</b>	

Table 6.1.2

**Residential satisfaction (RS) Inter-item reliability**

<u>Variable</u>	<u>Item-total correlation</u>
RSCPLAYA	0.51
RSSATISK	0.45
RSSATISH	0.55
RSSATSIZ	0.44
<u>RSRECOMK</u>	<u>0.53</u>
Inter-item correlations n = 89	
Minimum = 0.22    Maximum = 0.47	
<u>Mean = 0.34    Cronbach alpha = 0.72</u>	

**Housing management control      HM**

The scale for measuring this variable was constructed by combining four items in the questionnaire. These included:

HMPRIVCY - How would you rate the privacy your present house offers to you and your household, would you say it is low, moderate or high?

Table 6.1.3

**Respondents' rating of privacy in their homes (Freq. distribution)**

	<u>Freq.</u>	<u>%age</u>
1. Low	4	4.3
2. Moderate	34	36.2
3. High	56	59.6
Total	94	100
<u>Mean = 2.55    Median = 3.00    Std. dev. = 0.58</u>		

HMCONTH - How would you rate the control you have over this house and your household, would you say it is low, moderate or high?

Table 6.1.4

**Respondents' rating of control they have over their house (Freq. distribution)**

	<u>Freq.</u>	<u>%age</u>
1. Low	4	..3
2. Moderate	29	30.9
3. High	61	64.9
Total	94	100
<u>Mean = 2.61    Median = 3.00    Std. dev. = 0.57</u>		

HMINTFRL - Perceived interference of rules in households intervention: How much freedom do the rules for living in this house give you to alter, change, and maintain this house? Would you say; no freedom, little freedom or much freedom?

**Table 6.1.5**  
**Perceived interference of rules in households' intervention**  
**(Freq. distribution of responses)**

	<u>Freq.</u>	<u>%age</u>
1. No freedom	3	4.5
2. Little freedom	6	9.0
3. Much freedom.	58	86.5
Total	67	100
Mean = 2.82    Median = 3.00    Std. dev. = 0.49		

HMSECTEN Security of tenure: How secured is your tenancy for this house, would you say it is not secured, secured or well secured?

**Table 6.1.6**  
**Security of tenure (Freq. distribution of responses)**

	<u>Freq.</u>	<u>%age</u>
1. Not secured	10	13.7
2. Secured	26	35.6
3. Well secured	37	50.7
Total	73	100
Mean = 2.73    Median = 3.00    Std. dev. = 0.72		

**Table 6.1.7**  
**Housing management control : Inter-item reliability**

<u>Variable</u>	<u>Item-total correlation</u>
HMPRIVCY	0.41
HMCONTH	0.52
HMINTFRL	0.43
HMSECTEN	0.56
Inter-item correlations    n = 60	
Minimum = 0.19    Maximum = 0.48	
Mean = 0.36    Cronbach alpha = 0.70	

On average most respondents scored high on all items indicating that the respondents have a reasonably high control over their housing unit. The item-total correlations between the items were moderate (Table 6.1.7) which indicates that the items are

moderately associated with each other. The cronbach alpha value of 0.70 was obtained for these associations therefore indicating a reliable measure.

#### **Available resources AR**

The AR scale consist of seven items ranging from the physical condition of R's dwelling, financial availability and constraints for carrying out their interventions through to the availability of labour and building materials for the works.

The first two items, ARCONDH1 and ARCONH2 which deal with the physical condition of the respondents' dwellings were included in the questionnaire. These items were:

How true are the following statements as regards your present house, would you say they are; very true, true, or not true?

Table 6.1.8  
Physical condition of R's dwelling (Freq.  
distribution of responses)

ARCONDH1: The place needs minor repairs			
		<u>Frequency</u>	<u>%age</u>
1.	Not true	15	16.7
2.	True	37	41.1
3.	Very true	38	42.2
Total population		90	100
Mean = 2.26		Median = 2.0	Std. Dev. = 0.728
ARCONDH7: The place needs major repairs			
		<u>Freq.</u>	<u>%age</u>
1.	Very true	4	4.7
2.	True	8	9.3
3.	Not true	74	86.0
Total population		86	100
Mean = 2.81		Median = 3.00	Std. Dev. = 0.497

The other five items from the questionnaire included in the construction of the AR composite scale were:

ARFCONST: Financial constraints on R's intervention. This was measured by the following item in the questionnaire: Do you think that the lack of finance has kept you from making the necessary changes, alterations and maintenance to your house? The frequency of their responses were as follows:

**Table 6.1.9**  
**Financial constraints on R's intervention (Freq. distribution)**

		<u>Freq.</u>	<u>%age</u>
1.	Yes, very much so	42	47.7
2.	Yes, to some extent	24	27.3
3.	No	22	25.0
Total population		88	100
Mean = 1.77      Median = 2.00		Std. Dev. = 0.827	

**ARNGHINT:** Social resources. This was measured by the following item in the questionnaire; Sometimes neighbours do things to help out and make life easier. How often do your          neighbours help you out when you are in difficult situations, would you say; never, sometimes, or always?

**Table 6.1.10**  
**Social resources (Freq. distribution of responses)**

		<u>Freq.</u>	<u>%age</u>
1.	Never	9	9.6
2.	Sometimes	53	56.4
3.	Always	32	34.0
Total population		94	100
Mean = 1.76      Median = 2.00		Std. Dev. = 0.617	

**ARDIFLAB:** Availability of labour for the works. This was measured by the following item in the questionnaire: How difficult was it to get people to do the work for you when you didn't do them, was it very difficult, difficult, or not difficult?

**Table 6.1.11**  
**Availability of labour (Freq. distribution)**

		<u>Freq.</u>	<u>%age</u>
1.	Very difficult	8	9.4
2.	Difficult	19	22.4
3.	Not difficult	58	68.2
Total population		85	100
Mean = 2.59      Median = 3.00		Std. Dev. = 0.66	

**ARDIFMAT:** Availability of building materials. How difficult was it for you to get the required building materials to carryout the works, was it very difficult, difficult, or not difficult?



**Table 6.1.12**  
**Availability of building materials Freq. distribution of responses)**

		<u>Freq.</u>	<u>%age</u>
1.	Very difficult	33	35.4
2.	Difficult	46	49.5
3.	Not difficult	14	15.1
Total population		93	100
Mean = 1.8    Median = 2.00    Std. Dev. = 0.685			

**ARDIFFIN:** Availability of finance. How difficult was it for you to obtain finance needed to carryout the changes, alterations and maintenance, was it very difficult, difficult, or not difficult?

**Table 6.1.13**  
**Availability of finance (Freq. distribution of responses)**

		<u>Freq.</u>	<u>%age</u>
1.	Very difficult	36	38.7
2.	Difficult	51	54.8
3.	Not difficult	6	6.5
Total population		93	100
Mean = 1.68    Median = 2.00    Std. Dev. = 0.593			

**Table 6.1.14**  
**Available resources : Inter-item reliability**

<u>Variable</u>	<u>Item-total correlation</u>
ARCONDH1	0.49
ARCONDH2	0.40
ARFCONST	0.50
ARNGHINT	0.45
ARDIFLAB	0.43
ARDIFMAT	0.46
ARDIFFIN	0.57
Inter-item correlations n = 79	
Minimum = 0.19    Maximum = 0.42	
Mean = 0.33    Cronbach alpha = 0.74	

On average most respondents reported that their dwellings required more minor repairs than major repairs. This indicates that on average the respondents' dwellings were structurally sound. Labour was relatively easier to obtain for the works than

building materials and finance, and finance was the most difficult of the three to obtain

The inter-item correlations were moderate ranging from a minimum of 0.19 to a maximum of 0.42 with a mean of 0.33. The item-total correlations were also moderate as shown in Table 6.1.14. The cronbach alpha value for the association was 0.74, higher than the minimum required thus confirming the reliability of the ARTOTAL scale.

#### **Previous housing experience HE**

This variable represents a match between the respondents present and previous homes. In constructing the scale for this variable five items were derived by combining the responses on a particular dimension for both their present and previous homes. These dimensions included the type, size, location and quality of the dwellings, and the number of occupants in the homes. The reasoning being that the more their present home matches their previous home the more they will intervene in their housing. The total of the five items represented our final scale for the previous housing experience variable. The items included:

**HETYPE:** In this item the respondents' present house types were compared with their previous house types categorised as follows:

Table 6.1.15  
Present and previous house type (Freq. distribution)

	<u>Present house type</u>		<u>Previous house type</u>	
	<u>Freq.</u>	<u>%age</u>	<u>Freq.</u>	<u>%age</u>
Detached house	29	30.9	39	41.4
Semi-detached house.	21	22.3	15	16.0
Flat	18	19.1	16	17.0
Adjoining	22	23.4	23	24.5
Temporary/pan-body	4	4.3	1	1.1
<b>Total</b>	<b>94</b>	<b>100</b>	<b>94</b>	<b>100</b>
HETYPE scale constructed by collapsing the above scale to the following two-point scale:				
1. Previous house different from present				
2. Present house same as previous				

**HEQUALAR** This item represented the match between the respondents' present and previous homes in terms of perceived quality. This item was measured from a questionnaire item which asked the respondents to rate their previous homes in terms of their present homes using the following scale: (1) Much better , (2) Better, (3)

Same, (4) Worse, (5) Much worse. This scale was then compressed into a two-point scale in order to make the scales comparable with other items. The scale and responses obtained were as follows:

**Table 6.1.16**  
**Quality of present and previous homes compared (Freq. distribution)**

	<u>Freq.</u>	<u>%age</u>
Previous home much better than present	19	20.2
Previous home better than present	19	20.2
Previous home same as present	21	22.3
Previous home worse than present	34	36.2
Previous home much worse than present	<u>1</u>	<u>1.1</u>
	94	100
HEQUALAR scale was constructed by collapsing the above scale to the following two-point scale:		
1. The quality of both homes different		
2. The quality of both homes the same		

HEOCCPAR: In constructing this item the household size (number of occupants in the respondent's present home) was compared with that in their previous home. The scale used to measure household size and the frequencies obtained from the survey were as follows:

**Table 6.1.17**  
**Present and previous household sizes (Freq. distribution)**

	<u>Present home</u>		<u>Previous home</u>	
	<u>Freq.</u>	<u>%age</u>	<u>Freq.</u>	<u>%age</u>
1 to 3 people	10	10.6	15	16.0
4 to 6 people	28	29.8	26	27.7
7 to 8 people	19	20.2	16	17.0
9 to 10 people	10	10.6	6	6.4
11 or more people	27	28.7	31	33.0
Total population	94	100	94	
The above scale was collapsed to the following two-point scale for analysis:				
1. Different no. of occupants in both homes				
2. The same no. of occupants in both homes.				

**HESIZEAR:** Similarly, this item was measured by comparing the number of habitable rooms in their present homes with that in their previous homes. The responses were measured along the following scale:

**Table 6.1.18**  
**Present and previous house sizes (freq. distribution)**

	<u>Present home</u>		<u>Previous home</u>	
	<u>Freq.</u>	<u>%age</u>	<u>Freq.</u>	<u>%age</u>
One habitable room	4	4.2	18	19.2
Two habitable rooms	15	16.0	19	20.2
Three habitable rooms	25	26.6	25	26.6
Four habitable rooms	25	26.6	16	17.0
Five or more rooms	25	26.6	16	17.0
<u>Total population</u>	<u>94</u>		<u>94</u>	<u>100</u>
The above scale was collapsed to the following two-point scale for analysis:				
1. Different no. of rooms in both homes				
2. The same no. of rooms in both homes.				

**HELOCAR:** This item represented the location of their previous homes in terms of the location of their present home, i.e. Freetown, The responses were measured along the following scale:

**Table 6.1.19**  
**Previous home location (freq. distribution)**

	<u>Freq.</u>	<u>%age</u>
Previous home located in:		
1. Freetown	63	67.0
2. Suburbs of Freetown	22	23.3
3. District capital	4	4.3
4. Town	4	4.3
5. Village	1	1.1
<u>Total</u>	<u>94</u>	<u>100</u>
The above scale was collapsed to the following two-point scale used in the analysis:		
1. Previous house location different from present		
2. Same location of previous and present homes		

The results indicate that for most respondents their present house type was about the same as their previous house type, and similarly for the occupancy level which were

almost the same for both homes. But most respondents reported that the quality of their present home was lower than their previous home and now lived in a smaller house. Only few respondents had previously lived in a Town or village before moving into their present home.

The inter-item correlations were moderate with a minimum of 0.12 , a maximum of 0.58 and a mean of 0.24. The item-total correlations were also moderate as shown in Table 6.1.20. The cronbach alpha value was less than expected, 0.68 but close to the required minimum.

Table 6.1.20  
Previous housing experience: Inter-item reliability

<u>Variable</u>	<u>Item-total correlation</u>
HETYPEAR	0.35
HEQUALAR	0.34
HEOCCPAR	0.40
HESIZEAR	0.54
HELOCAR	0.37
Inter-item correlation n = 91	
Minimum = 0.12 Maximum = 0.58	
Mean = 0.24 Cronbach alpha = 0.68	

#### Preferred housing HP

In constructing the scale for this variable three items were considered. These included house type, size and the number of floors of the building in which R's dwelling is located. The descriptions of the present dwelling were obtained from site observation using the environmental assessment tool developed for this purpose. Three items were also included in the questionnaire designed to elicit information regarding R's preferred housing. These set of items were compared to develop a scale for each dimension described above. The match between the present and preferred housing on these dimensions were combined and the total obtained to represent R's score on the HP variable. The items included were:

**HPTYPE:** This item represented the match between present and preferred house type. Their responses were as follows (See Table 6.1.21)

**Table 6.1.21**  
**Present and preferred house type (Freq. distribution)**

	<u>Present home</u>		<u>Preferred home</u>	
	<u>Freq.</u>	<u>%age</u>	<u>Freq.</u>	<u>%age</u>
Detached house	29	30.9	61	64.9
Semi-detached house	21	22.3	18	19.1
Flat	18	19.1	3	3.2
Adjoining	22	23.4	12	12.8
Temporary/pan-body	4	4.3	-	-
<u>Total population</u>	<u>94</u>	<u>100</u>	<u>94</u>	<u>100</u>

The HPTYPE scale was derived by collapsing the above scales and was as follows: 1. Present house type different from previous house

2. Present and previous houses the same.

**HPSIZE:** This item represented the match between the respondents' present and preferred house sizes in terms of the number of habitable rooms. Their responses were as follows:

**Table 6.1.22**  
**Present and preferred house sizes (Freq. distribution)**

	<u>Present home</u>		<u>Preferred home</u>	
	<u>Freq.</u>	<u>%age</u>	<u>Freq.</u>	<u>%age</u>
One habitable room	4	4.2	-	-
Two habitable rooms	15	16.0	3	7.5
Three habitable rooms	25	26.6	22	55
Four habitable rooms	25	26.6	8	20.0
Five or more rooms	25	26.6	7	17.5
<u>Total population</u>	<u>94</u>	<u>100</u>	<u>40</u>	<u>100</u>

The above categories were collapsed to form the following two-point scale for HPSIZE: 1. Present and previous house sizes different

2. Present and previous house sizes the same.

**HPFLOR:** This item represented the match between present and preferred floor height of the building in which R's dwelling is located, and their responses were as follows (See Table 6.1.23)

**Table 6.1.23**  
**Height of building in which R's present and preferred dwelling is located**

	<u>Present dwelling</u>		<u>Preferred dwelling</u>	
	<u>Freq.</u>	<u>%age</u>	<u>Freq.</u>	<u>%age</u>
One floor	72	77.4	60	67.4
Two floors	17	18.3	24	27.0
Three or more floors	4	4.3	5	5.6
<u>Total population</u>	<u>93</u>	<u>100</u>	<u>89</u>	<u>100</u>

The HPFLOR scale was developed by collapsing the above scale into the following two-point scale:

1. Present and preferred floor height of dwelling different
2. Present and preferred floor height of dwelling the same.

The above responses indicate that on average, over half of all the respondents would prefer their dwellings to be a detached house, with three rooms and located in a building of one floor high.

The inter-item correlations as shown in Table 6.1.24 varied from a minimum of 0.28 to a maximum of 0.48 with a mean of 0.36 which represents moderate correlations. The inter-item reliability as defined by the item-total correlations were also moderate. The cronbach alpha value was somewhat lower than expected, 0.69, but close to the required minimum. However as alpha depends on the number of items in the correlation, for a number of items as small as three, an alpha value of 0.69 is acceptable (Nunnally, 1978).

**Table 6.1.24**  
**Preferred housing: Inter-item reliability**

<u>Variable</u>	<u>item-total correlation</u>
HPTYPE	0.47
HPSIZE	0.48
<u>HPFLOR</u>	<u>0.53</u>
Inter-item correlation n = 89	
Minimum = 0.28 Maximum = 0.48	
<u>Mean = 0.36 Cronbach alpha = 0.69</u>	

#### **Residential attachment RA**

Five items in the questionnaire were combined and the total taken to represent R's score on the RA variable. The items included R's interaction with their neighbours, relatives and friends living in their immediate neighbourhood, the length of stay in

Kissy and in their present dwelling. The items in the questionnaire and responses obtained were as follows:

**RAREL:** If you have relatives and friends living in this neighbourhood, how often do you see them than those living outside the neighbourhood? Would you say; less often, often or more often?

**Table 6.1.25**  
**Interaction with relatives/ friends in present neighbourhood (Freq. distribution)**

	<u>Freq.</u>	<u>%age</u>
1. Less often	10	10.6
2. Often	41	43.6
3. More often	43	45.7
Total	94	100
Mean = 2.35    Median = 2.00    Std. dev. = 0.67		

**RATALK:** How true is the following statement in your case; "I usually spend a lot of time talking to neighbours around us"? Would you say it is very true, true or not true?

**Table 6.1.26**  
**Verbal interaction with neighbours (Freq. distribution)**

	<u>Freq.</u>	<u>%age</u>
1. Not true	63	69.2
2. True, or	24	26.4
3. Very true?	4	4.4
Total	91	100
Mean = 1.35    Median = 1.00    Std. dev. = 0.57		

**RANAME:** How true is the following statement in your case; "I know the names of most families around us"? Would you it is very true, true or not true?

**Table 6.1.27**  
**Acquaintance with neighbours (Freq. distribution)**

	<u>Freq.</u>	<u>%age</u>
1. Not true	7	7.6
2. True, or	47	51.1
3. Very true?	38	41.3
Total	92	100
Mean = 2.34    Median = 2.00    Std. dev. = 0.62		

**RALENGTK** How long have you lived in the Kissy area?

**RALENGTH** How long have you lived in this particular house?



The response categories for items RALENGTK and RALENGTH were (1) 2 years, but less than 5 years, (2) 5 years, but less than 10 years, (3) 10 years, but less than 20 years, (4) 20 years or over. These categories were compressed into a three-point scale in order to match the scales for the other items under the RA variable. The final scale used was:

**Table 6.1.28**  
**Duration of residence in present dwelling and neighbourhood**

	<u>Kissy</u>		<u>Dwelling</u>	
	<u>Freq.</u>	<u>%age</u>	<u>Freq.</u>	<u>%age</u>
1. Less than 5 years	12	12.8	34	36.2
2. 5 years, but less than 10 years	17	18.1	28	29.8
3. 10 years or over	65	69.1	32	34.0
<u>Total</u>	<u>94</u>	<u>100</u>	<u>94</u>	<u>100</u>

The above responses indicate that on average most respondents see their relatives and friends in their neighbourhoods more than those living outside their neighbourhoods, but spend less time talking to neighbours around them. Most families in the sample have lived in the Kissy area for more than 10 years, but have lived in their particular houses less than 10 years. On average, the respondents have therefore lived longer in their neighbourhoods than in their present dwellings.

**Table 6.1.29**  
**Residential attachment : Inter-item reliability**

<u>Variable</u>	<u>Item-total correlations</u>
RAREL	0.41
RATALK	0.52
RANAME	0.48
RALENGTK	0.46
<u>RALENGTH</u>	<u>0.59</u>
Inter-item correlations	n = 91
Minimum = 0.21	Maximum = 0.52
<u>Mean = 0.32 Cronbach alpha = 0.71</u>	

The inter-item correlations between the items varied from a minimum of 0.21 and a maximum of 0.52 with a mean of 0.32 which indicate moderate associations between the items (Table 6.1.29). The item-total correlations are also moderate. The cronbach alpha value was 0.71 which indicates a reliable measure of the RA variable.

**Demographic characteristics DE**

Five variables were considered under this category of variables and were each considered separately in the analyses.

**DEDENS** The household density variable was derived by dividing the total number of occupants by the number of habitable rooms in each house, the reasoning being that the density as a factor will affect the household's intervention and their residential satisfaction. The density varied from a minimum of 0.33 to a maximum of 10 people per habitable room with means and standard deviation of 0.50 and 1.55 respectively.

**DENOCOTOT** This demographic variable represented the household size and was derived from the total number of occupants in R's present home. The results obtained indicate that household size varied from one to a maximum of 18 for all the households surveyed. The mean was 8.5 and a standard deviation of 4.94. A total of 802 people were represented in the sample.

**DEINCOME** This variable in the demographic domain represents the total income of the household. It is the sum of the monthly income of all members of the household. An item was included in the questionnaire designed to elicit information which was assumed to included both primary and secondary sources of income. The respondents were asked to indicate the income group in which the total monthly income for all the household falls and varied from Le1,000 to over Le10,000 and the scale used and their responses were as follows:

Table 6.1.30  
Household income (Freq. distribution)

	<u>Freq.</u>	<u>%age</u>
1. Le1,000, but less than Le1,500	1	1.1
2. Le1,500, but less than Le2,000	1	1.1
3. Le2,000, but less than Le3,000	14	14.9
4. Le3,000, but less than Le5,000	38	40.4
5. Le5,000, but less than Le10,000	27	28.7
6. Le10,000 and over	13	13.8
Total	94	100
Mean = 4.36      Median = 4.00      Std. dev. = 1.00		

**DEEDQHH** An item was included in the questionnaire to elicit information about the educational qualification of the head of household. R's response

was a measure of this variable and the following scale was used (See Table 6.1 31)

**Table 6.1.31**  
**Education of head of household (Freq. distribution)**

	<u>Freq.</u>	<u>%age</u>
0. No educational qualification	13	14.1
1. Primary school	10	10.9
2. Secondary School / GCE 'O' Level	59	64.1
3. GCE 'A' Level	1	1.1
4. Teachers' Training Certificate	3	3.3
5. Professional institute	1	1.1
6. University degree or above	5	5.4
Total	92	100
Mean = 2.9	Median = 2.00	Std. dev. = 1.98

The mean was 2.90 and a standard deviation of 1.98. By far the most common qualification was Secondary school /GCE 'O' Level.

**DEAGEHH** Information about the age of the head of household was obtained from an item in the questionnaire which asked respondents to indicate the age group in which the head of household belong. The respondents were required to select from five categories of age groups. The responses were as follows:

**Table 6.1.32**  
**Age of head of household (Freq. distribution)**

	<u>Freq.</u>	<u>%age</u>
15 years, but less than 25 years	3	3.2
25 years, but less than 35 years	20	21.3
35 years, but less than 45 years	38	40.4
45 years, but less than 55 years	21	22.3
55 years and over.	12	12.8
Total	94	100
Mean = 3.20	Median = 3.00	Std. dev. = 1.02

**DEOCCHH** This variable represented the occupation of the head of household at the time of the survey and an item in the questionnaire required the respondents to indicate the occupation of the head of household from a list of categories presented to them which included:

Table 6.1.33  
Profession of head of household (Freq. distribution)

	<u>Freq.</u>	<u>%age</u>
1. Professional worker	14	14.9
2. Civil servant	25	26.6
3. Self-employed	24	25.5
4. Skilled worker	15	16.0
5. Unskilled worker	2	2.1
6. Armed forces	6	6.4
7. Unemployed.	8	8.5
Total	94	100
Mean = 3.17      Median = 3.00	Std. dev. = 0.90	

These categories were then organised in a scale to enable this variable to be measured. The final scale used was.

1. Unemployed
2. Unskilled worker
3. Skilled worker
4. Professional worker.

#### Household intervention HI

In the questionnaire the respondents were asked to name the various interventions (improvements and maintenance) they have made in their homes since moving in. They were also asked to indicate how important and expensive these interventions were and whether they were made because they wanted to improve their building or to prevent deterioration in the condition of their houses. The interviewer was armed with a list of categories of interventions under which he classified each item named. The interviewer was also conducted around the building so that he can observe and probe to find out if certain interventions were left out by the respondent. The respondents were asked to indicate from the following how best they would describe each intervention they have made:

- |                             |                   |
|-----------------------------|-------------------|
| 1. Very important           | 1. Very expensive |
| 2. Important                | 2. Expensive      |
| 3. Unimportant              | 3. Inexpensive    |
| 1. To improve the building  |                   |
| 2. To prevent deterioration |                   |

The important and expensive scales were combined to derive a scale for quantifying the interventions. It represents an nine-point scale as follows:

- |                                 |                                    |
|---------------------------------|------------------------------------|
| 0. Unimportant / Very expensive | 5. Important / Very expensive      |
| 1. Unimportant / Expensive      | 6. Very important / Inexpensive    |
| 2. Unimportant / Inexpensive    | 7. Very important / Expensive      |
| 3. Important / Inexpensive      | 8. Very important / Very expensive |
| 4. Important / Expensive        |                                    |

There were sixty-two interventions of which forty-two were classified as improvements and twenty as maintenance and repairs. The frequencies for these interventions are presented in the Appendix(B). The frequencies varied from a minimum of one for adding a porch to the house, constructing a well, and constructing new stairs/steps, to a maximum of 87 for internal furnishings. The minimum mean rating recorded was 3.47 for providing a lawn/hedges to a maximum of 8 for adding an internal toilet and for providing a covered walk etc. (Tables 5.3.1 and 5.3.2)

The sum of the scores for all interventions carried out was taken to represent the total household intervention score (HITOTAL) for the household which was then correlated with the outcome variable, residential satisfaction and the other independent variables mentioned earlier.

The inter-item reliability for the constructed scale was not determined as it was not possible to derive any correlations between the various items because of the large number of missing cases when they were combined.

## 6.2 TEST OF HYPOTHESES

In this section, we report results of tests of the hypotheses under the following sections. The first deals with the overall household intervention and groups A and B hypotheses which bear upon them. The second section deals with the hypotheses that relate HI and RS for the three residential status groups (PO, PR and PH households). The third section deals with improvement and maintenance as they relate to HI and RS. Summary of the results of the analysis are presented in the final section.

The Pearson product moment correlation coefficients were used in statistical analysis to determine the relationship between variables with interval scales, household intervention, residential satisfaction, available resources, residential attachment, housing management control, previous housing experience, preferred housing, household density, and household size. For the whole population the level of the

correlation coefficient,  $r = \pm 0.20$  was chosen as significant because it was this value of "r" which was significant at the 0.05 level using a population sample of 94. For those pairs of variables where the coefficient was equal to or greater than  $r = \pm 0.20$ , Chi-square tests were performed to determine the significant level. For PO households the level of  $r = \pm 0.44$  was chosen as significant because it was at this value of 'r' which was significant at the 0.05 level using a population sample of 21. The level chosen for PR households was  $r = \pm 0.28$  significant at the 0.05 level for 48 degrees of freedom using a population sample of 48, and that for PH households was  $r = \pm 0.38$  significant at the 0.05 level using a population sample of 25.

The level of probability for  $r = \pm 0.20$  for the whole sample,  $r = \pm 0.44$  for PO households,  $r = \pm 0.28$  for PR households, and  $r = \pm 0.38$  for PH households, higher than 0.05 indicates that the two variables are independent of each other and fails to support our hypothesis. An "r" value where the level of significance is 0.05 or below indicates that the two variables are associated at a level higher than that due to chance and as such supports our hypothesis and indicates association between the two variables.

The chi-square tests were also performed to test the independence of two variables that involved HI and the demographic variables with ordinal scales, household income, age of head of household, educational qualification of head of household, and occupation of the head of household. The HI scores were arranged as an ordinal 3-point scale as follows:

<u>HI Score range</u>	<u>Scale</u>	<u>Value</u>
0 - 60	Low HI	1
61 - 99	Medium HI	2
100 - 139	High HI	3

The RS scores were also arranged on a 3-point ordinal scale as follows:

Less than 12	Dissatisfied	1
12 - 17	Satisfied	2
18 and over	Very satisfied	3

The level of probability, for chi-square ( $X^2$ ) value, higher than 0.05 indicates that the two variables are independent of each other and fails to support our hypothesis. A chi-square value where the level of significance is 0.05 or below indicates that the two variables are associated at a level higher than that due to chance. The 0.05 level of significance is then adequate to support our hypothesis and indicate an association between the two variables. The technique of the analysis of variance was adopted to test the hypotheses relating to the differences in the HI scores between residential status groups and the comparison between improvement and maintenance using the F

ratio and F distribution statistics. Where the F ratio is greater than the critical value obtained from the F distribution statistics with a level of probability of 0.05 or lower, the differences were significant. But where the F ratio is less than the critical value and the probability higher than 0.05 level, the differences were considered not significant at a level higher than that due to chance.

### 6.3 GROUP 'A' HYPOTHESES

#### Hypothesis A1 Residential satisfaction RS

It was predicted that RS will be higher the more the residents of Kissy intervene in their housing in fulfilling their needs and values. The total HI scores derived from the combination of the sixty two categories of interventions were correlated with RS, and for all the sample, it was significant with a correlation coefficient of 0.208 significant at the 0.04 level. HI seems to make significant difference in the quality of life in low-income housing in Kissy, and the more the residents intervene in their housing the more satisfied they were with their housing (Table 6.3.1).

Table 6.3.1  
Correlation coefficients and levels of significance for HI and RS as  
associated with other factors

Factor	Household intervention		Residential satisfaction	
	r	p	r	p
<b>Environmental factors</b>				
Residential satisfaction	0.208	0.04(S)	*	*
Available resources	- 0.05	(NS)	0.262	0.03(S)
Residential attachment	0.273	0.009(S)	0.184	(NS)
Previous housing experience	-0.026	(NS)	0.116	(NS)
Preferred housing	0.10	(NS)	0.268	0.009(S)
Housing management control	0.263	0.05(S)	-0.285	0.03(S)
<b>Demographic characteristics</b>				
Household density	0.008	(NS)	0.078	(NS)
Household size	0.202	0.05(S)	0.314	0.002(S)
Household income	0.165	(NS)	0.155	(NS)
Education of head of household	0.083	(NS)	-0.255	0.01(S)
Age of head of household	0.218	(NS)	0.179	(NS)
Occupation of head of household	0.091	(NS)	0.074	(NS)
S = Significant at the 0.05 level of probability				
NS = Not significant at the 0.05 level of probability				

### **Hypothesis A2      Available resources AR**

It was hypothesised that HI will be higher the more financial, social and physical resources available to the residents in enabling them to carryout their interventions. It was expected that AR will have a positive correlation with HI. The correlation between AR and HI was non significant (NS) for the whole population,  $r = -0.05$ , but was highly significant for RS,  $r = 0.262$   $p = 0.03$  (Table 6.3.1).

A possible explanation for these result may be that irrespective of the level of resource availability the residents will adjust their expectations in order to make their housing comfortable as possible so as to derive satisfaction in accordance with the cognitive dissonance theory mentioned in chapter 2, or will find substitutes for the resources not available.

### **Hypothesis A3      Residential attachment RA**

It was hypothesised that the more the residents identify themselves with their housing the more they will intervene in it. When this prediction was tested, a positive relationship was found between RA and HI with a correlation coefficient of 0.27 significant at the 0.009 level for the whole sample. Although the correlation between RA and HI was significant, the correlation between RA and RS for the whole sample was NS ( $r = 0.184$ ,  $p = 0.08$ ).

### **Hypothesis A4      Preferred housing HP**

The prediction was that HI will be lower the more the residents' present housing matches their preferred housing. HP was found to have no positive relationship with HI for the whole sample. The correlation was NS ( $r=0.10$ ) but was however highly significant with RS with a coefficient  $r = 0.268$ , significant at the 0.01 level but in a negative direction to our prediction (Table 5.3.1). This suggests that the match between the residents' present and preferred housing influences their residential satisfaction and has no influence on their intervention.

### **Hypothesis A5      Previous housing experience HE**

It was predicted that the residents will intervene more in their housing that matches their learned expectations which are derived from their previous housing experience . The correlation with HI for the whole population was NS ( $r = -0.026$ ). The correlation between HE and RS was also NS,  $r = 0.116$ . These results indicate that the respondents' experience derived from their previous housing had no influence on their intervention in their present housing, nor on their satisfaction with it.



#### **Hypothesis A6      Housing management control HM**

It was predicted that HI will be higher if management is perceived as exercising minimal interference into the households control and use of their spaces and when the rules facilitate their intervention. It was therefore expected that when HM is correlated with HI a positive relationship will result. The HM scale measured the control the residents have over their housing, the reasoning being that the higher this control the less interference there is in their housing control.

The results revealed a positive relationship with HI for the whole population with a correlation coefficient of 0.263 significant to the 0.05 level therefore supporting our hypothesis. The correlation was also significant but in the opposite direction for RS with a correlation coefficient of -0.285 significant at the 0.03 level (Table 6.3.1).

#### **6.4      GROUP "B" HYPOTHESES : DEMOGRAPHIC CHARACTERISTICS**

The prediction was that HI will be higher when the residents intervene in their housing to match their cultural norms and patterns of social interaction which are derived from their demographic characteristics. The characteristics investigated were the household density, household size, household income, occupation of the head of household, educational qualification of the head of household, and the age of the head of household. Each of these variables is correlated with HI and RS and the results of the correlations are shown in Table 6.3.1.

The Pearsonian coefficients of correlation were determined primarily to test the hypotheses that relate HI with household density, and HI with household size. The coefficients were also determined for the other demographic variables and then the chi-square tests were performed to ascertain the significance of the association at the 0.05 level of probability.

#### **Hypothesis B1      Household density**

The prediction was that the higher the household density the more the residents will intervene in their housing. The correlations for household density with HI and RS were NS,  $r = 0.01$  and  $0.08$  respectively. It is surprising to note that even though the number of occupants positively correlated with both HI and RS (see below), household density which is derived from the former did not correlate positively with HI and RS. The number of habitable rooms to which density is related may provide the key explanation for the variation. In the sample surveyed 59.6% were satisfied with the size of their present homes and 57.4% would prefer homes similar to the size

of the present ones. Only 6.5% added rooms as extensions to their present homes. Density which is related to the size of the home is less likely to influence HI or RS because even if the residents are not satisfied with the sizes of their homes and cannot easily move to homes of their choices the tendency will be for them to accept the present one and try to make it comfortable as possible, thus deriving higher satisfaction without providing additional rooms. On the other hand the residents can intervene without adding rooms as extensions when the number of occupants increases, for example, by accepting more people per room, partitioning a space, or even using the parlour for sleeping purpose. The residents are also likely to be more satisfied because of increase in interaction between them as their number increases.

#### **Hypothesis B2      Household size**

It was predicted that the higher the household size the more the household will intervene in their housing and the higher will be their RS. When the total number of occupants was correlated with HI the correlation was significant ( $r = 0.202$ ,  $p = 0.05$ ). The correlation was also significant for RS ( $r = 0.31$ ,  $p = 0.002$ ).

#### **Hypothesis B3      Household income**

It was predicted that HI will be higher the higher the income of the household which will facilitate intervention more readily. When household income was correlated with HI and RS the correlations were both NS. For HI the correlation was 0.17 (NS) and for RS, 0.16 (NS). Even though the correlation between HI and household income was not significant the chi-square test indicated that household income was associated with HI at the 0.05 level of probability (Table 6.4.1).

Of the 13 households with monthly income over Le10,000, six (46.15%) scored moderately on HI. These scores are similar for households with monthly incomes between Le5,000 and Le10,000. Of the 27 households with income within this range, 9 (33.33%) scored high on HI and 12 (44.45%) of them scored moderately on HI. In contrast the percentages of households with monthly incomes in the Le3,000 to Le5,000 and Le2,000 to Le3,000 ranges who scored high on HI were about half of the two top groups. Twenty-five (65.79%) of the 38 households with income between Le3,000 to Le5,000 scored moderately on HI, while 8 (57.14%) of those earning between Le2,000 and Le3,000 scored low on HI. On the basis of these results the hypothesis that household income was positively associated with HI was supported.

The correlation between household income and RS was also NS ( $r = 0.16$ ), and a chi-square test indicated that the association was not significant at the 0.05 level of probability (Table 6.4.2).

**Table 6.4.1**  
**Household intervention (HI) as associated with the demographic factor**  
**(household income)**

Demographic characteristics	<u>Household intervention scores (HI)</u>							
	Low		Moderate		High		Total	
	<u>0 - 60</u>		<u>61 - 99</u>		<u>Over 100</u>			
	N	%	N	%	N	%	N	%
<u>Household income</u>								
Le1,000 to Le1,499	0	0	0	0	1	1.1	1	100
Le1,500 to Le1,999	1	100	0	0	0	0.00	1	100
Le2,000 to Le2,999	8	57.14	4	28.57	2	14.29	14	100
Le3,000 to Le4,999	7	18.42	25	65.79	6	15.79	38	100
Le5,000 to Le9,999	6	22.22	12	44.45	9	33.33	27	100
Le10,000 and over	3	23.08	6	46.15	4	30.77	13	100
Total	25	26.60	47	50.00	22	23.40	94	100
<u><math>\chi^2(10df) = 18.417 &gt; 18.307</math>. Significant at the 0.048 level</u>								

**Table 6.4.2**  
**Residential satisfaction (RS) as associated with the Demographic variable**  
**(Household income)**

Demographic characteristic	<u>Residential satisfaction score</u>							
	Dissatisfied		Satisfied		Very satisfied		Total	
	N	%	N	%	N	%	N	%
Le1,000 to Le1,499	0	0	1	1.1	0	0	1	100
Le1,500 to Le1,999	0	0	1	1.1	3	0	1	100
Le2,000 to Le2,999	1	7.14	10	71.43	3	21.43	14	100
Le3,000 to Le4,999	4	10.53	29	76.31	5	13.16	38	100
Le5,000 to Le9,999	2	7.41	17	62.96	8	29.63	27	100
Le10,000 and over	1	7.69	7	53.85	5	8.48	13	100
Total	8	8.51	65	69.15	21	22.34	94	100
<u><math>\chi^2(10df) = 5.30 &lt; 18.307</math>. Not significant at the 0.05 level (<math>p = 0.845</math>)</u>								

#### **Hypothesis B4      Educational qualification of head of household**

The prediction was that households that have heads with lower educational qualifications will intervene more in their housing. The correlation between educational qualification of head of household and HI was NS ( $r = 0.08$ ) but was highly significant for RS ( $r = -0.26$ ,  $p = 0.01$ ) in the negative direction.

**Table 6.4.3**  
**Household intervention (HI) as associated with demographic characteristic**  
**(Educational qualification of head of household)**

Educational qualification	<u>Household intervention scores (HI)</u>							
	Low (0-60)		Moderate(61-99)		High(over 100)		Total	
	N	%	N	%	N	%	N	%
No education	6	46.15	5	38.46	2	15.39	13	100
Primary school	3	30.00	5	50.00	2	20.00	10	100
GCE 'O' Level	14	23.73	29	49.15	16	27.12	59	100
G C E 'A' Level	0	0	1	100	0	0	1	100
Teacher's Training CRT.	0	00	3	100	0	0	3	100
Professional Institute	1	100	0	0	0	0	1	100
University Degree/above	1	20.00	2	40.00	2	40.00	5	100
<b>Total</b>	<b>25</b>	<b>27.17</b>	<b>45</b>	<b>48.91</b>	<b>22</b>	<b>23.92</b>	<b>92</b>	<b>100</b>

$\chi^2$  (12df) = 10.59 < 21.02. Not significant at the 0.05 level (p = 0.54 )

**Table 6.4.4**  
**Residential satisfaction (RS) as associated with the demographic characteristic**  
**(educational qualification of head of household)**

Demographic characteristics Educational qualification of head of household	<u>Residential satisfaction score</u>							
	Dissatisfied		Satisfied		Very satisfied		Total	
	N	%	N	%	N	%	N	%
No education	0	0	9	69.31	4	30.69	13	100
Primary school	0	0	7	70.00	3	30.00	10	100
GCE 'O' Level	7	11.87	39	66.10	13	22.03	59	100
G C E 'A' Level	0	0	1	100	0	0	1	100
Teacher's Training CRT.	0	0	3	100	0	0	3	100
Professional Institute	0	100	1	100	0	0	1	100
University Degree/above	1	20.00	3	60.00	1	20.00	5	100
<b>Total</b>	<b>8</b>	<b>8.70</b>	<b>63</b>	<b>68.48</b>	<b>21</b>	<b>22.82</b>	<b>92</b>	<b>100</b>

$\chi^2$  (12df) = 0.442 < 21.02. Not significant at the 0.05 level (p = 0.892)

A chi-square test also indicated that the association between HI and educational qualification of head of household was not significant at the 0.05 level of probability (Table 6.4.3). A closer look at the results shows that with the exception of those households with heads having a university degree qualification and above, no

household scored high on HI for the next three higher groups i.e. Professional institute, Teacher's Training Certificate and GCE "A" Level. In contrast heads of households with lower educational qualifications i.e. Secondary school/GCE "O" Level, Primary school and no educational qualification, 27.12%, 20% and 15.39% scored high on HI respectively. About 50% of households with heads having Primary school and Secondary school qualifications scored moderate on HI, Five (38.46%) of the 13 households with heads having no educational qualification scored moderate on HI, while 6 (46.15%) scored low. This result does not seem to support our hypothesis that there is a significant association between educational qualification of head of household and HI. Also no significant association was found between the educational qualification of the head of household and RS (Table 6.4.4).

#### **Hypothesis B5      Age of head of household**

It is hypothesised that households with older heads will intervene more in their housing. It was therefore expected that a positive association between age of head of household and the HI scores will result. The correlation was higher than the selected value ( $r=0.22$ ) but not significant at the 0.05 level of probability. The correlation between age of head of household and RS was also non-significant ( $r = 0.18$ ,  $p = 0.08$ ). A chi-square test carried out showed that age of head of household was not significantly associated with HI at the 0.05 level of probability (Table 6.4.5).

The results indicate that 5 (41.67%) of the 12 households with heads 55 years or over scored moderately on HI and the same proportion scored high. Only 19.05% of households with heads between 45 and 55 years, and 17.95% of those between 35 and 45 years scored high on HI. More households with heads less than 35 years scored high on HI than those between 35 and 55 years. Only 26.32% of households with heads between 25 and 35 years, and 33.33% of those between 15 and 25 years scored high on HI. The HI scores for the lowest age group were evenly distributed with a third scoring low, moderate and high respectively. Over one-third For households with heads in the 25 to 35 year age group 42.1% scored low on HI, while 51.28% of those in the 35 to 45 year age group and 71.43% of those in the 45 to 55 year group scored moderate on HI. For households with heads in the oldest age group, 41.67% scored moderate and high on HI respectively. From these findings it is evident that no linear relationship exist between age of head of household and HI and the test fails to support our hypothesis.

The correlation between age of head of household and RS was also not significant, and this result was supported by the chi-square test which showed that there was no significant association between the age of head of household and RS at the 0.05 level of probability (Table 6.4.6).

**Table 6.4.5**  
**Household intervention (HI) as associated with the demographic factor**  
**(age of head of household)**

Demographic characteristics	<u>Household intervention scores (HI)</u>							
	Low		Moderate		High		Total	
	<u>0 - 60</u>		<u>61 - 99</u>		<u>Over 100</u>			
<u>Age of head of household</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>
15 to less than 25 years	1	33.34	1	33.33	1	33.33	3	100
25 to less than 35 years	8	42.10	6	31.58	5	26.32	19	100
35 to less than 45 years	12	30.77	20	51.28	7	17.95	39	100
45 to less than 55 years	2	9.52	15	71.43	4	19.05	21	100
55 years and over	2	16.66	5	41.67	5	41.67	12	100
Total	25	26.60	47	50.00	23	23.40	94	100

$\chi^2$  (6df) = 10.705 < 12.592. Not significant at the 0.05 level (p = 0.098)

**Table 6.4.6**  
**Residential satisfaction (RS) as associated with the demographic factor (Age of head of household)**

Demographic characteristics	<u>Residential satisfaction score</u>							
	Dissatisfied		Satisfied		Very satisfied		Total	
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>
15 to less than 25 years	0	0	3	100	0	0	3	100
25 to less than 35 years	4	21.05	11	57.90	4	21.05	19	100
35 to less than 45 years	1	2.56	27	69.23	11	28.21	39	100
45 to less than 55 years	2	9.52	17	80.96	2	9.52	21	100
55 years and over	1	8.34	7	58.33	4	33.33	12	100
Total	8	8.51	65	69.15	21	22.34	94	100

$\chi^2$  (8df) = 10.278 < 15.507. Not significant at the 0.05 level. (P = 0.246)

#### **Hypothesis B6      Occupation of head of household**

The prediction was that households with heads having lower occupational status will intervene more in their housing. The correlation between occupation of the head of household and HI was NS ( $r = -0.09$ ) at the 0.05 level of probability. The correlation between occupation of head of household and RS was also not significant at the 0.05 level of probability ( $r = 0.07$ ). The chi-square test performed indicated no significant association between the occupation of the head of household and HI at the 0.05 level

of probability. Of the 8 households with unemployed heads, four (50%) scored moderately on HI and the same proportion scored high while no household scored low. Similarly, no household with unskilled worker as head scored low or high. They all scored moderately on HI. Seven (46.67%) of the households with skilled worker as head scored low and moderate on HI respectively and only 6.66% scored high. For those households with professional workers as heads, 34 (46.27%) of the 69 scored moderate on HI and 26.09% and 23.40% scored low and high respectively. No clear linear association is apparent from the results and therefore the test fails to support our hypothesis that there is a significant association between occupation of head of household and HI. (Table 6.4.7).

**Table 6.4.7**  
**Household intervention (HI) as associated with the demographic factor**  
**(occupation of head of household)**

Demographic characteristics	<u>Household intervention scores (HI)</u>							
	Low		Moderate		High		Total	
	<u>0 - 60</u>		<u>61 - 99</u>		<u>Over 100</u>			
<u>Occupation</u>	N	%	N	%	N	%	N	%
Unemployed	0	0	4	50.00	4	50.00	8	100
Unskilled worker	0	0	2	100.00	0	100.00	2	100
Skilled worker	7	46.67	7	46.67	1	6.66	15	100
Professional worker	18	26.09	34	46.27	17	24.64	69	100
Total	25	26.60	47	50.00	22	23.40	94	100

$X^2$  (6df) = 10.705 < 12.592. Not significant at the 0.05 level (p = 0.098)

**Table 6.4.8**  
**Residential satisfaction (RS) as associated with the demographic factor (occupation of head of household)**

Demographic characteristics	<u>Residential satisfaction score</u>							
	Dissatisfied		Satisfied		Very satisfied		Total	
	N	%	N	%	N	%	N	%
Unemployed	1	12.50	6	75.00	1	12.50	8	100
Unskilled worker	0	0.00	2	100.00	0	0.00	2	100
Skilled worker	0	0.00	11	73.33	4	26.67	15	100
Professional worker	7	10.14	46	66.67	16	23.19	69	100
Total	8	8.51	65	69.15	21	22.34	94	100

$X^2$  (6df) = 3.169 < 12.592. Not significant at the 0.05 level (p = 0.78)

The correlation between occupation of head of household and RS was also non-significant at the 0.05 level of probability. The chi-square test supports this result which showed no significant linear association between occupation of head of household and RS at the 0.05 level (Table 6.4.8).

### 6.5 GROUP 'C' HYPOTHESES : RESIDENTIAL STATUS

Under this group of hypotheses relating to the residential status of households, three distinct predictions were presented in chapter 3. In this section we will present the results as they relate to these hypotheses. The pearson product moment correlation was adopted to test the relationship between RS and HI for the three residential status groups in hypothesis C1. The levels of correlation and significance adopted as criteria in the analysis are the same as those presented at the beginning of section 6.2 of this chapter. Table 6.5.1 gives the correlation coefficients and levels of significance for these tests. The analysis of variance method was adopted to analyse the differences in the HI scores between residential status groups, the results of which are presented in Table 6.5.2. This technique of analysis allows us to determine the degree to which HI in a particular residential status group can be accounted for at different levels of RS expressed by the residents.

#### Hypothesis C1

It was predicted that RS will be higher the more the residents of Kisumu intervene in their housing irrespective of their residential status. It was therefore expected that there will be significant positive correlation between RS and HI for private owner occupiers (PO), renters in private housing (PR), and renters in the public low-cost housing (PH) as distinct groups.

Table 6.5.1  
Pearsonian correlation coefficients and levels of significance for RS as  
associated with HI for different residential status

Dependent variable	Household intervention score		Sample size
<u>Residential satisfaction</u>	<u>r</u>	<u>p</u>	<u>n</u>
PO households	0.652	0.001(S)	21
PR households	0.187	0.203(NS)	48
PH households	-0.148	0.481(NS)	25
<u>Total sample</u>	<u>0.208</u>	<u>0.040(S)</u>	<u>94</u>
S = Significant at the 0.05 level of probability			
<u>NS = Not significant at the 0.05 level of probability</u>			



The correlation between RS and HI for PO households was highly significant,  $r = 0.652$ , significant at the 0.001 level of probability. The correlation was positive but not significant at the 0.05 level of probability for PR households ( $r = 0.187$ ), which suggests a weak relationship. The correlation for PH households was negative in the opposite direction to our prediction and not significant at the 0.05 level of probability ( $r = -0.148$ ). The correlation for the total sample as already discussed, was significant ( $r = 0.208$ ) at the 0.04 level of probability. With the exception of PH households the results generally indicate a characteristic tendency for RS to be higher when HI is higher, i.e. a positive relationship.

### Hypotheses C2 and C3

It was predicted that PO households will intervene more in their housing than renters. It was also predicted that there will be no significant difference between PR and PH households in the degree to which they intervene in their housing. The technique of the analysis of variance using the F ratio and distribution was adopted for testing these hypotheses about the equality of the means of HI scores among the different residential status groups. The technique also allows us to determine the degree to which HI in a particular group can be accounted for at different levels of RS.

The extent to which HI varies with RS between the different residential status groups is evident in Table 6.5.2 The mean HI scores in the total column for different levels of satisfaction classified as dissatisfied, satisfied and very satisfied represent the scores for the entire sample in the study with the effect of residential status partialled out. There does not seem to be a clear linear relationship between HI and RS in the total sample as the correlation test indicated. The mean HI scores dropped from the level of 83.88 for the dissatisfied group to 73.97 for those satisfied with their housing environment. These results suggest that the relationship between HI and RS may in fact be curvilinear as some researchers have suggested (Morris and Winter, 1978).

If we now turn our attention to the mean scores at different satisfaction levels for the three residential status groups we find from the figures that the variation in the mean HI scores is different across the groups. The linear relationship between HI and RS is strongest among PO households and although apparent among PR households the relationship seems to be weak. A linear relationship between HI and RS is also evident among PH households although in the negative direction to our prediction. These results are supportive of those obtained from the correlation tests described in the previous section.

A closer look at the RS scores indicates that 75% of all those dissatisfied with their housing were PH households even though they constitute only 26.6% of the total

sample. PR households accounted for 25% of all those who were dissatisfied while they constitute 51.06% of the total sample. There were no dissatisfied households among PO households. Dissatisfaction was therefore most common among PH households, but scored highest on HI. Variation of RS within the PH households group on the other hand shows that 76% were satisfied while only 24% were dissatisfied, which indicates that even though more PH households were dissatisfied with their housing than PR and PO households, they were generally satisfied with their housing. The variation in RS however shows similar tendencies across the three residential status groups. Among PR households, 72.91% were satisfied and only 4.17% were dissatisfied. For PO households 52.38% were satisfied with no dissatisfied households. The percentage of households who were very satisfied was less than those satisfied within the three residential status groups. With the exception of PH households, there were more households who were very satisfied than those dissatisfied. There is therefore similarity in the variation in RS across the various groups but dissimilarity in the variation in the HI scores.

These differences in the HI scores point to the differences in the intervention patterns in the various residential status groups. If we recall in chapter 3 we delineated three types of interventions as they relate to RS; 'active', 'passive' and 'balanced' interventions. The intervention pattern among PO households tend to follow the active type, a purposeful attempt to raise the quality of their housing environment to their levels of expectations. This pattern was also apparent among PR households although to a lesser degree. The pattern among PH households tended to follow the passive type, i.e. the households intervene in their housing not with the desired consequences for higher RS but an attempt to make tolerant and deal passively with deficiencies in their housing environment. With such results it is tempting to speculate an underlying reason for the discrepancy. Such a speculation should however be made with caution making use of available data. When asked what they liked most about their present homes, of the PH households 28% referred to the security of their tenure and 24%, the low rent available to them. On the other hand 57.14% of PO households referred to ownership of their homes. Because of the security of their tenure and the reasonable rent available to them, PH households, are unlikely to be able to move into other houses that offer similar advantages and to their liking. They therefore make best of what they have by intervening for comfort even if they hate the place. In other words they tend to discount the importance of dissatisfying conditions or aspects of their housing that they cannot alter in line with Festingers cognitive dissonance theory.

Now turning to our hypothesis C2 we predicted that PO households will intervene more than PR or PH households. The mean intervention scores for PO households was 101.81 which is much higher than 65.58 and 79.88 for PR and PH households respectively. The group mean HI scores in Table 6.5.2 are clearly different across the groups, with PO households having the highest and PR households the least. The F ratio of 24.668 for 2df and 91df was obtained which is higher than the critical value of 3.099 indicating that the mean HI scores for the different residential status groups are significantly unequal.

**Table 6.5.2**  
**Mean scores and frequencies of HI for different RS and residential status**

Residential satisfaction	Residential status			
	PO	PR	PH	Total
<b>Dissatisfied</b>				
Mean	0	50.00	95.17	83.88
Freq.	0	2	6	8
S%	0	25	75	100
G%	0	4.17	24	8.51
<b>Satisfied</b>				
Mean	7.64	65.94	75.05	73.97
Freq.	11	35	19	65
S%	16.92	53.85	29.23	100
G%	52.38	72.91	76.00	69.15
<b>Very satisfied</b>				
Mean	106.40	67.27	0.00	85.90
Freq.	10	11	0	21
S%	47.62	52.38	0	100
G%	47.62	22.92	0	22.34
<b>Total</b>				
Mean	101.81	65.58	79.88	77.48
Freq.	21	48	25	94
S%	100	100	100	100
G%	00	100	100	100

S% = Percentage within RS group

G% = Percentage within residential status group

For PO, PR and PH:  $F(2df \text{ and } 92df) = 24.668 > 3.099$ . Significant difference

For PO, and renters:  $F(1df \text{ and } 91df) = 37.682 > 3.948$ . Significant difference

For PR and PH:  $F(1df \text{ and } 92df) = 6.909 > 3.978$ . Significant difference

When we compare the mean HI scores of 101.81 for PO households and 70.48 for PR and PH households combined we obtained an F ratio of 37.682 for 1df and 92df which is higher than the critical value of 3.948. Indicating that owner occupiers intervened more in their housing than renters. When PR and PH households were compared with mean HI scores of 65.58 for PR households and 79.88 for PH households we obtained an F ratio of 6.909 for 1df and 92df which is higher than the critical value of 3.978. (Table 6.5.2) This indicates that the two residential status groups intervened in their housing at different levels with PH households intervening more.

## 6.6 GROUP 'D' HYPOTHESES : IMPROVEMENT AND MAINTENANCE

The following predictions were made under group D hypotheses:

- D1. RS will be higher the more the residents of Kisumu improve or maintain their homes.
- D2. Owner occupiers will carry out more improvements in their homes than renters.
- D3. There will be no significant difference between the improvements renters in private housing and renters in public low-cost housing make in their homes.
- D4. Owner occupiers will carry out more maintenance in their homes than renters.
- D5. There will be no significant difference between the levels of maintenance undertaking by renters in private housing and renters in public low-cost housing in their homes.
- D6. Residents will carry out more maintenance than improvements in their homes.

In these hypotheses it was expected that household improvements will have significant positive correlation with RS in the total sample and across the different residential status groups; that there will be significant difference between the mean improvement scores for PO households and that for the combined PR and PH households; and that there will be no significant difference between the mean improvement scores for PR and PH households. The correlation coefficients and significance levels reported in Table 6.6.1 indicate that there are no significant correlations between improvements and RS for the total sample or for the three residential status groups. These results are surprising as they deviate slightly from

those obtained for the overall HI which indicate significant positive correlations between the overall HI and RS for the total sample and PO households.

**Table 6.6.1**  
**Correlation coefficients and levels of significance for RS as associated with HI improvement and HI maintenance by residential status**

<u>Dependent variable</u>	<u>HI improvement</u>		<u>HI maintenance</u>	
	<u>r</u>	<u>p</u>	<u>r</u>	<u>p</u>
<u>Residential satisfaction</u>				
PO households	0.311	0.170(NS)	0.248	0.278(NS)
PR households	0.109	0.459(NS)	0.156	0.290(NS)
PH households	-0.119	0.570(NS)	-0.093	0.659(NS)
Total sample	0.136	0.19(NS)	0.166	0.109(NS)
S = Significant at the 0.05 level				
NS = Not significant at the 0.05 level				

Table 6.6.2 gives the mean improvement scores and frequencies at three different levels of residential satisfaction. In the total sample column the mean improvement scores dropped from a value of 59 for the dissatisfied households to 51.58 for the satisfied households, and then increased to 61.14 for those who were very satisfied with their housing. The variation of improvement scores with RS exhibit similar trend to that for the overall HI. This however tend to suggest a curvilinear relationship between improvement and RS. Among PH households, the mean improvement scores decreased as satisfaction with their housing increased. A negative trend is apparent and in the opposite direction to that for PO or PH households. When the analysis of variance test was performed we obtained an F ratio of 24.627 for 2df and 91df which is higher than the critical value, thus indicating that the mean improvement scores are significantly different across the residential status groups. The F ratio of 10.412 for 1df and 71df was obtained when the mean improvement scores for PR and PH households were compared. This value is much higher than the critical value of 3.978 indicating that there is a significant difference between the mean scores for PR and PH households.

The mean improvement score of 72.76 for PO households was higher than for PR households (44.67) and for PH households (57.64). This indicates that Owner occupiers carried out more improvements than renters, and among the renters, those in the public low-cost housing carried out more improvements than those in private housing.

These results fail to support hypothesis D1 that there is a significant positive correlation between RS and improvements. The results, however seem to support the hypothesis (D2) that owner occupiers will carry out more improvements in their homes than renters in both public and private housing, but fails to support hypothesis D3 that there will be no significant difference between the levels of improvement achieved by renters in both public and private housing.

**Table 6.6.2**  
**Mean HI improvement scores and frequencies for RS by residential status**

	<u>Residential status</u>			
<u>Residential satisfaction</u>	<u>PO</u>	<u>PR</u>	<u>PH</u>	<u>Total</u>
<b>Dissatisfied</b>				
Mean	0.00	43.00	65.00	59.00
Freq.	0	2	6	8
S%	0	25	75	100
G%	0	4.17	75.05	8.51
<b>Satisfied</b>				
Mean	66.91	44.74	55.32	51.58
Freq.	11	35	19	65
S%	16.92	53.85	29.23	100
G%	52.38	72.91	76.00	69.15
<b>Very satisfied</b>				
Mean	79.20	44.73	0	61.14
Freq.	10	11	0	21
S%	47.62	65.58	0	100
G%	47.62	65.58	0	22.34
<b>Group total</b>				
Mean	72.76	44.67	57.64	54.39
Freq.	21	48	25	94
S%	100	100	100	100
G%	100	100	100	100
PO, PR, PH: F (2df and 91df) = 24.627 > 3.099. Significant at the 0.05 level				
PR and PH : F (1df and 71df) = 10.412 > 3.978. Significant at the 0.05 level				
S% = Percentage within RS group				
G% = Percentage within residential status group				

From the hypotheses we expected that there will be significant positive correlation between maintenance and RS for the total sample and the different residential status groups; that there will be significant difference between the mean scores for

maintenance across the groups and that the scores for PO households will be higher than for PR and PH households combined; that there will be no significant difference between the mean maintenance scores for PR and PH households; and that there will be significant difference between the mean improvement and the mean maintenance score for the total sample, with the mean maintenance score being higher than the mean improvement score.

Table 6.6.3  
Mean HI maintenance scores and frequencies for RS and  
residential status

<u>Residential satisfaction</u>	<u>Residential status</u>			<u>Total</u>
	<u>PO</u>	<u>PR</u>	<u>PH</u>	
<b>Dissatisfied</b>				
Mean	0	7.00	30.17	24.38
Freq.	0	2	6	8
S%	0	25	75	100
G%	0	4.17	75	8.15
<b>Satisfied</b>				
Mean	32.18	21.66	19.74	22.88
Freq.	11	35	19	65
S%	16.92	53.85	29.23	100
G%	52.38	72.91	76.00	69.15
<b>Very satisfied</b>				
Mean	31.00	22.55	0.00	22.24
Freq.	10	11	0	21
S%	47.62	52.38	0	100
S%	47.62	65.58	0	22.34
<b>Group total</b>				
Mean	31.62	21.25	22.24	23.83
Freq.	21	48	25	94
S%	100	100	100	100
100	100	100	100	100

a. Owner occupiers and renters:  $F(1df \text{ and } 91df) = 7.961 > 3.948$ . Significant at the 0.05 level

b. PR and PH households:  $F(1df \text{ and } 71df) = 0.072 < 3.978$ . Not significant at the 0.05 level

c. S% = Percentage within RS group

d. G% = Percentage within residential status group

Table 6.6.3 gives the figures for the mean maintenance scores and frequencies for RS for the three residential status groups. The results for maintenance are similar in some respect but different in others to improvements and overall HI. They are different in that for the total sample the mean maintenance score dropped from 24.38 for dissatisfied households to 22.88 for satisfied households while it increased for improvement and overall HI. It also slightly decreased to 22.24 for the very satisfied group instead of increasing as in the case for improvements and overall HI. A negative relationship between RS and maintenance is quite apparent even though not at a significant level, and this contradicts previous suggestion for improvement and overall HI that the relationship could be curvilinear. However, opposite trends in the variation of the mean maintenance scores with RS for PR and PH households can be identified from the figures. The trend is positive for PR household and negative for PH households although both associations are not significant at the 0.05 level of probability. The trend is different with PO households where the mean maintenance scores increased from zero for dissatisfied households to 32.18 for the satisfied households and then slightly decreased to 31 for the very satisfied. The mean maintenance score of 31.62 for PO households is higher than for both PR and PH households. The analysis produced an F ratio of 7.961 for 1df and 92 df in comparing the mean maintenance scores for PO households and for PR and PH households combined. This value is higher than the critical value of 3.948, thus indicating that there is a significant difference between the two mean scores with PO households carrying out more maintenance.

An F ratio of 0.072 for 1df and 71df (0.790 significance) was obtained when comparing the mean scores for PR and PH households which is much less than the critical value of 3.948 indicating that there is no significant difference between the two maintenance scores. This supports hypothesis (D5) that there is no significant difference in the levels at which PR and PH households maintain their homes. The results also support the hypothesis (D4) that PO households will carryout more maintenance in their homes than PR or PH households.



**Table 6.6.4**  
**Mean household improvement scores by household income and residential status**

<u>Household income</u>	<u>Residential status groups</u>				
	<u>PO</u>	<u>PR</u>	<u>PH</u>	<u>All</u>	<u>POP</u>
Le1,000 but less than Le1,500	0	58.00	0	58.00	1
Le1,500 but less than Le2,000	0	40.00	0	40.00	1
Le2,000 but less than Le3,000	71.67	35.00	58.00	45.15	14
Le3,000 but less than Le5,000	66.17	39.79	56.44	51.84	38
Le5,000 but less than Le10,000	73.89	48.25	61.17	59.67	27
Le10,000 and over	83.67	55.10	0	61.69	13
Total	72.79	44.67	57.64	54.39	
Population	21	48	25	94	
<u>Household income: F(5df and 81df) = 2.64 &gt; 2.33. Significant at the 0.05 level</u>					

An F ratio of 2.709 for 39df and 44df was obtained when HI improvement and HI maintenance scores were compared. This value is higher than the critical value of 1.66 which indicates that there is a significant difference between improvements and maintenance. The mean HI improvement score for the whole sample was 54.39, while the mean HI maintenance score was 23.83. These results fail to support the hypothesis (D6) that the residents of Kisumu will carry out more maintenance in their homes than improvement.

Finally, the only demographic variable found to be strongly associated with household improvement was household income. No demographic variable was found to be strongly associated with household maintenance. As shown in Table 6.6.4, the mean household improvement scores increase with increase in household income for the total sample with those earning Le10,000 or more carrying out more improvements in their homes. However, those households with income between Le1,000 and less than Le1,500 had a higher mean score (58.00) than those earning between Le1,500 and less than Le2,000. There was only one household in each of these two income groups and were all renters in private housing. This therefore does not provide us with sufficient bases for any conclusive generalisation to be made from these two groups. The differences between the income groups were significant at the 0.05 level of probability with an F ratio of 2.44 which is higher than the critical value of 2.33.

One of the purposes of this study was to develop reliable measures for household intervention, the respondents assessment of their housing quality in terms of their satisfaction with it (residential satisfaction), and various exogenous factors which we believe influence the intervention of low-income families in their housing. Another goal was the validation of the scale for household intervention through its performance as a predictor of residential satisfaction. Certain exogenous variables were introduced into the study as predictors of household intervention, seeking to explain the hypothesised relationship between household intervention and residential satisfaction.

At the beginning of this chapter, composite scales were developed for seven variables which included residential satisfaction (the dependent variable), available resources, housing management control, previous housing experience, and preferred housing. Reliability tests carried out on these scales show high levels of reliability and consistencies within the scales. It should be pointed out that the various factors we introduced in this study are believed to constitute a set of valid representation of housing improvement by low-income families in Kissy. It is possible that several other family characteristics not included in the study might have more influence on household intervention. On the other hand, the factors selected for the purposes of this study may very well be reasonable ones. In spite of this shortcoming of the study, our findings as presented in this chapter show that:

1. The association of household intervention with residential satisfaction was found to be positive with a pearson correlation coefficient higher than the criterion selected and significant at the 0.05 level of probability. Thus indicating that, as household intervention increases, the tendencies for the households to be satisfied with their housing increases. This would seem to support our hypothesised relationship (hypothesis A1) between household intervention and residential satisfaction, and therefore the residents intervention in their housing as an 'active' one.
2. Available resources was not found to be significantly associated with household intervention, with a correlation coefficient less than the selected criterion. This finding therefore does not seem to support our hypothesised relationship (hypothesis A2) between available resources and household intervention, that the more financial, social and physical resources at the disposal of low-income families in Kissy the more they will intervene in their housing.

3. The association of residential attachment with household intervention showed a significant positive relationship; the more the residents of low-income housing in Kisumu identify with their housing the more they intervened in it. The correlation coefficient obtained was higher than the criterion selected and was significant at the 0.05 level of probability. This seems to support our hypothesised relationship (hypothesis A3) between residential attachment and household intervention.
4. The correlation between the residents' preferred housing variable with household intervention showed no significant relationship between the two variables, and therefore, does not lend support to our hypothesis (A4) that the more the residents' present housing matches their preferred housing the less they will intervene in their housing. However, preferred housing was found to have a significant relationship with residential satisfaction in a positive direction. Suggesting that the more the residents' present housing matches their preferred housing the more satisfied they will be with their housing.
5. From the correlation performed between previous housing experience and household intervention, no significant association was found, and therefore did not support our hypothesis (A5) that when the residents' present housing matches their learned expectations which are derived from their previous housing the more they will intervene in their present housing.
6. The result of the correlation between housing management control and household intervention showed a significant positive association between the two variables. This result seems to support our hypothesis (A6) that household intervention will be higher if management is perceived as exercising minimal interference into the households' control and use of their dwellings and when the rules facilitate their intervention in their housing. Also a negative correlation was found between housing management control and residential satisfaction. This is in contrast with our expectation that residential satisfaction will be higher when management is perceived as exercising minimal interference into the households' control and use of their dwellings and when the rules facilitate their intervention in their housing.
7. Correlations show significant positive association at the  $r = 0.2$  level or higher between household size in terms of the number of occupants in the household and household intervention. Household size was also found to be significantly associated with residential satisfaction with higher satisfaction expressed by those with larger household size. This seems to support our hypothesised relationship (hypothesis B2) between household size and household intervention, that the higher the size of the household the more

they will intervene in their housing. On the other hand, no significant association was found between household density and household intervention, nor between household density and residential satisfaction.

8. From the Chi-Square tests performed between other demographic variables and household intervention, the only variable found to be significantly associated with household intervention with a chi-square value greater than the critical value was household income. This supports our hypothesis B3.
9. The association between household intervention and residential satisfaction was found to be positive and significant at the selected criteria of  $r = 0.44$  and 0.05 level of probability for owner occupiers. The correlations did not show any significant association for renters in private housing and renters in the public low-cost housing. This did not support our hypothesis (C1) that the association between household intervention and residential satisfaction will be positive and significant for all residential status groups.
10. Significant differences were found in the mean HI scores between owner occupiers and renters with owner occupiers scoring higher than renters. This seem to support our hypothesis (C2) that owner occupiers will intervene more in their housing than renters.
11. The analysis also showed that the mean HI scores for renters in private housing and renters in the public low-cost housing were significantly different, with renters in public low-cost housing intervening more in their housing than renters in private housing. This does not support our hypothesis (C3) that the intervention levels for renters in both sectors will not be significantly different.
12. It was expected that the association between household improvement and residential satisfaction will be positive and significant. Likewise, it was expected that household maintenance will have a positive and significant association with residential satisfaction. However, correlations performed showed no significant association for the two relationships, and fails to support our hypothesis (D1).
13. The analysis of variance between household improvement for the residential groups shows that the mean household improvement scores were significantly different, with owner occupiers carrying out more improvements than renters in both public and private housing. These results seem to support our hypothesis (D2) that owner occupiers will carryout more improvements in their homes than renters, but fail to support the hypothesis (D3) that there will be no significant difference in the levels of improvements for renters in private and in the public low-cost housing.

14. The analysis also showed that owner occupiers carried out more maintenance in their homes than renters. The difference in the mean maintenance scores for the two groups was found to be significant. This supports our hypothesis (D4).
15. No significant difference was found between the mean maintenance score for renters in private housing and those in the public low-cost housing, thus supporting our hypothesis (D5) that there will be no significant difference in the levels of maintenance carried out by renters in both public and private housing.
16. Finally, a significant difference was found between the mean scores for the maintenance and improvements carried out by the residents of low-income housing in Kissy. The mean household improvement score was higher than the mean household maintenance score. This result does not support our hypothesis (D6) that the residents of low-income housing in Kissy will carryout more maintenance in their homes than improvements.

## CHAPTER 7

### RESIDENTS' ATTITUDE AND EVALUATION OF THEIR HOUSING

#### 7.0 INTRODUCTION

This chapter deals with the respondents attitude and evaluation of their housing in terms of privacy in their homes, and satisfaction with their dwellings and neighbourhoods in general. The chapter begins by examining the respondents' attitudes towards their housing which will include what the respondents liked or disliked most about their present dwellings and their neighbourhood. Section 2 examines their evaluations of several housing attributes related to their dwellings and neighbourhoods. Section 3 examines how satisfied they were with their dwellings and neighbourhoods. Attitudes are further shown by voluntary comments made by the respondents during the interviews. The chapter ends by presenting summary of the findings reported in this chapter.

#### 7.1 RESPONDENTS' ATTITUDES TOWARDS THEIR HOUSING

As mentioned previously, the majority of the households (77.7%) were renters and the majority of these wanted to own their own homes. This was true for many obvious reasons, among them: first, renting usually does not provide the self-esteem of owning<sup>1</sup>, second, ownership protects the owner from uncertainties of tenancy and reliance on others<sup>2</sup>. Many of our respondents experienced many undesirable things while renting their homes, such as the repeated increase in the rent mostly for those in private housing, unfriendly relationships with landlord. Third, unlike the rented house which is greatly restricted by a lease agreement or contract, the owned house

<sup>1</sup> Several studies (Roberts, et al., 1977; Foot, et al., 1960; Mogey, 1956; Young and Willmott, 1975) have suggested the "prestige imagery" that home ownership provides. Deverson and Lindsay (1975) found that many of their informants emphasized a feeling of contentment and pride in personal property.

<sup>2</sup> Roberts, et al., The Fragmentary Class Structure, London: Heinemann, 1977.

symbolises personal control over one's own private space<sup>3</sup>. Finally, owning a house proves to be a good investment for the owner. The majority of owner occupiers were renting part of their dwelling to supplement their income. The privacy, security, investment, and prestige that an owned home provides its occupants cannot generally be matched by rented accommodation. Not surprisingly, when respondents who were owner occupiers were asked what they liked most about their present home, over half (about 57% ) mentioned ownership.

### **Features liked most about present home**

When the respondents were asked about the features they liked most about their present home, most of them alluded to features in their neighbourhood, quiet neighbourhood being the most frequently mentioned with 16% of the respondents mentioning it (see Table 7.1.1). This feature was liked most among renters in private housing (PR households). Spacious home was also quite frequently mentioned but the respondents were all renters either in private housing(PR households) or in the public low-cost housing (PH households). Nearly a quarter (24%) of all PH respondents mentioned reasonable rent and secured tenancy, much higher than for the other groups. Home owners did not mention secured tenancy because they felt they were more secured by owning their homes and not tied down by rent and its troubles. Some of them mentioned the freedom they enjoyed by doing anything they wished to their homes (i.e., improvements, maintenance etc.). Some respondents replied:

"Owning this house in itself presents the greatest satisfaction to me because I have something I can leave to children"

"There is no doubt that living in a house you own is a special treat"

Some home owners who built their homes expressed their satisfaction with their accomplishment. One respondent replied:

"Even a single room made of cardboard which you built and own is better than living in someone else's house".

The self-esteem and prestige of owning a home was the concern of one respondent:

"When you own your home, people around you look at you differently than if you are renting it".

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<sup>3</sup> Rakoff (1977) noted that, in general, the house symbolized personal control in two ways: first, having control of one's own private space gave people a feeling of freedom from the control and intrusion of others. Second, and more importantly, people felt that by being in control of their own private space, they had the power and opportunity to make something of themselves, to be "more of an individual," to achieve a kind of self-fulfillment.

**Table 7.1.1**  
**What do you like most about your present home?**

		<u>%age of households</u>			
		<u>PO</u>	<u>PR</u>	<u>PH</u>	<u>All</u>
1.	Quiet neighbours	9.5	25.0	4.0	16.0
2.	Home ownership	57.1	-	-	12.8
3.	Spacious house	-	14.6	20.0	12.8
4.	Reasonable rent	-	6.3	24.0	9.6
5.	Friendly neighbours	9.5	12.5	-	8.5
6.	Secured tenancy	-	-	24.0	6.4
7.	Water supply	9.5	4.2	-	4.3
8.	Good landlord	-	8.3	-	4.3
9.	Near my work place	4.8	6.3	-	4.3
10.	Security at home	-	-	12.0	3.2
11.	Good housing	4.8	2.1	-	2.1
12.	Market facilities	-	4.2	-	2.1
13.	Others	4.8	16.6	12.0	12.8

Over one-eighth (12.8%) referred to other features relating to both their dwellings and neighbourhoods. For example, spacious back yard to carryout domestic activities such as cooking, laundry etc., toilet facilities, view from their front veranda overlooking the sea, privacy in the home, safe neighbourhood, access to a main road, and healthy atmosphere. The respondents attitudes towards their neighbourhoods in Kissy were determined by asking them about the feature they liked most in Kissy. The results are shown in Table 7.1.2. Again, the most frequently mentioned feature was peaceful and quiet, followed closely by friendly neighbours. The residential group in which the former feature was most frequently mentioned was the PH group with 92% of them mentioning it. Also, over half of the respondents in private housing (PO and PR households) also did mention this feature as the most liked. Friendly neighbours was much less popular among PO respondents with just over one-fifth (23.8%) mentioning it compared to 52.1% for PR respondents and 76% for PH respondents. Less than one-tenth mentioned each other feature as one of the most important feature liked.

About a quarter mentioned the location aspects of their dwellings. For example, some respondents were very pleased by their closeness to the Kissy/Wellington new road which is the major road into Freetown from the provinces. Over half (52.4%) of owner occupiers referred to this feature. Other location aspects mentioned by some of the respondents were proximity to schools where they could send their children, and other



community places such as mosque, church and market. Less than a-tenth (8.5%) of the sample mentioned good housing, and also less than a tenth (7.4%) mentioned some other features mostly related to the appearance of the neighbourhood. For example, cleanliness, general layout of the neighbourhood, safe neighbourhood, and good ventilation.

**Table 7.1.2**  
**Important features of Kissy most liked**

	%age of households			
	PO	PR	PH	All
1. Peaceful and quiet	61.9	50.0	92.0	63.8
2. Friendly neighbours	23.8	52.1	76.0	52.1
3. Good location	52.4	25.0	8.0	26.6
4. Good housing	4.8	8.3	12.0	8.5
5. Others	0.0	14.6	0.0	7.4

When the respondents were asked why they chose Kissy as a place to live, several of them referred to more than one reason of which the most common was that Kissy was the only place they could find a home to live. Nearly two-thirds (62.8%) of all respondents gave this reason. This includes almost all (84%) of PH respondents, and over half of PO respondents (52.4%) and PR respondents (56.3%). The relative ease of finding a home to rent or land to buy in Kissy appears to have influenced some families in moving to Kissy, as some respondents replied:

"I tried to buy land to build my house in the western area close to my relatives, but it was so difficult that I had to settle for this place in Kissy which was much easier and cheaper to get."

"Even if you are able to find a place to rent in the central and western areas of Freetown it will be much more expensive. It is different in Kissy."

Just over one-fifth (20.2%) replied that they chose to live in Kissy because it is near their relatives and friends. Surprisingly, no PH respondent gave this reason but they were the residential group that found Kissy most peaceful and quiet with 92% of them mentioning this feature as the most liked, (Tables 7.1.2 and 7.1.3). They were also the residential group that considered their neighbours most friendly. However, over one-third (38.1%) of all PO respondents choose to live in Kissy because it was near their relatives and friends. Over half of these have lived in Kissy all their lives and some of them commented that they will not live anywhere else.

A large number (17%) of the respondents considered Kissy as a pleasant place to live and fewer respondents (13.8%) choose to live in Kissy because it is near their work place. Some respondents (16%) mentioned other reasons which varied from one residential group to the other. Among these, reasonable rent was often cited by PH respondents and by two PR respondents. One PR respondent reported that he had decided to live in Kissy because it was less densely populated. Among PO respondents, land and home hereditary, home ownership were often mentioned.

The above results indicate that the ambience of the neighbourhood in terms of peacefulness, quietness, and friendly atmosphere was by far the features most liked. Features related to their present home, home ownership, spacious house, and reasonable rent were less liked. This may strongly suggest that a considerable number of the respondents tended not to make distinction between their dwellings and the immediate neighbourhoods.<sup>4</sup> Among all categories, home ownership was the second most-liked feature next to peaceful and quiet neighbours by owner occupiers. Among home attributes, spacious house next to reasonable rent and secured tenancy were most-liked by PH respondents but not as liked as the neighbourhood attributes of peaceful and quiet, and friendly neighbours. Spacious house was the most-liked home attribute by PR respondents, but also less than the neighbourhood features of peaceful and quiet, friendly neighbours and good location. This indicates that there is significant difference in the attitudes of the various residential groups towards their housing.

Table 7.1.3  
Why do you choose to live in the Kissy area?

%age of households				
	PO	PR	PH	All
1. It is the only place I could find a house	52.4	56.3	84.0	62.8
2. It is near my relatives and friends	38.1	22.9	0.0	20.0
3. The place is pleasant to live	14.3	18.8	16.0	17.0
4. I have lived here all my life	23.8	18.8	4.0	16.0
5. It is near my work place	9.5	20.8	4.0	13.8
6. Others	38.1	4.2	20.0	16.0

#### Features disliked most about the house and neighbourhood

Here again it seemed that the respondents were not able to distinguish between features of their houses and those of their neighbourhoods in Kissy. When asked what they disliked most about their present dwellings, well over half (61.7%) mentioned water

<sup>4</sup> This is consistent with findings in previous studies (Keller, 1968; Hartman, 1972).

supply. This feature was also one of the two most disliked features in their neighbourhoods, together with electricity supply, as shown in Tables 7.1.4 and 7.1.5. The concern over the drop in standards of water and electricity supplies over the past years ran deep through the communities in Kissy as some respondents commented:

"Disruption in water supplies to our homes is a serious problem in Kissy and because of this we had to abandon the use of our internal toilet and constructed an outdoor one which requires less water for its use."

"For the past six years electricity and water supplies to our homes have been so unstable that we are thinking of moving away from this area to other parts of Freetown where these services are much more stable."

"Water and electricity supplies to this area are so bad and the authorities are not doing anything to improve them. I cannot see things improving in the near future."

Another respondent who was also concerned about the poor water and electricity supplies compared the two problems:

"When there is no electricity in the home you can use candles or paraffin lamps instead, but you cannot supplement for water. Water is an essential commodity you cannot do without."

Some respondents were concerned about the effect of poor electricity supplies on their social life and daily activities, as some respondents complained:

"When there is no electricity in the neighbourhood everyone tends to stay in their home and the social life in the area becomes dull."

"My children always use the inadequate lighting situation as an excuse for them not to do their homework. Even though I do exert pressure on them to do their work. I however, do appreciate their concern."

For some respondent, mostly renters, other features of their neighbourhoods were more important than features of their dwellings. Some complained about the noise and trash in their neighbourhoods, poor roads and transportation. One PO respondent even complained about snakes intruding their privacy. Few respondents complained about features related to their dwellings. High rent was the concern of few PR respondents, and complaints about toilet facilities were made by some PR and PH respondents. One PR respondents complained about the lack of privacy inside their house:

**"There is no privacy, my neighbours overlook my house".**

Complaints about the size of the dwelling in terms of the number of bedrooms were mentioned by two PH respondents. One had this to say:

**"Myself, wife, three children, and my sister and her husband are all occupying these three rooms.....Definitely this house is not large enough for a family of this size. We cannot move because rents elsewhere are much higher and our tenancy here is much more secured. I wish I could add at least a bedroom to this dwelling, but even if I could, I'm not allowed to do so by the Housing Coorporation."**

**Table 7.1.4**

**What are the important features of your house you dislike?  
(Percentage distribution)**

	PO	PR	PH	All
Water supply	61.9	47.9	88.0	61.7
Electricity supply	3.8	12.5	0.0	11.7
Transportation	0.0	4.2	0.0	2.1
Noisy neighbours	4.8	4.2	0.0	3.2
Poor roads	0.0	4.2	0.0	2.1
Dusty home	0.0	4.2	0.0	2.1
Trash in the neighbourhood	0.0	2.1	0.0	1.1
High rent	0.0	4.2	0.0	2.1
Toilet facilities	0.0	6.3	8.0	5.3
No privacy in home	0.0	2.1	0.0	1.1
Poor internal finishing	0.0	2.1	0.0	1.1
Insufficient rooms	0.0	0.0	8.0	2.1
Disturbing snakes	4.8	0.0	0.0	1.1

When asked what they dislike most about their neighbourhoods in Kissy, among the most widely mentioned, poor water and electricity supplies, were transportation and shopping facilities. More than three-quarters of the all the respondents (76.6%) complained about poor transportation and half about poor shopping facilities. Less than one-fifth (20%) of the respondents complained about either noise, in the neighbourhood, inadequate playground for their children, inadequate disposal of refuse, unfriendly neighbours, or other features. Among the most widely disliked features of their neighbourhood and home were therefore water and electricity supplies to their homes, transportation and shopping facilities in their neighbourhoods.

**Table 7.1.5**  
**Which important features of your neighbourhood do you dislike?**  
**(Percentage distribution)**

	PO	PR	PH	All
Water supply	90.5	81.7	100.0	93.6
Noisy neighbours	23.8	25.0	4.0	19.1
Inadequate children playground	4.8	8.3	44.0	17.0
Electricity supply	100.0	100.0	92.0	97.9
Refuse disposal	4.8	8.3	24.0	11.7
Unfriendly neighbours	14.3	18.8	20.0	18.1
Transportation	81.0	68.8	88.0	76.6
Poor shopping facilities	52.4	43.8	60.0	50.0
Others	9.5	22.9	0.0	13.8

#### **Features most liked and disliked about previous home**

When the respondents were asked which features they liked most about their previous homes, over one-quarter (28.7%) referred to water supply compared to 4.3% who liked the water supply to their present homes most. Those who mentioned rent free (14.9%) were all renters in either private housing (14.6%) or in the public low-cost housing (28%). This indicates the concern some of the present renters expressed by moving from their previous homes, as one respondent remarked in his interview:

"I find it extremely difficult to pay the rents in my present home especially when there are other pressing needs to be met such as providing food for the family and paying school fees for the children.... On two occasion my landlord almost evicted us for non-payment of the rent, and had it not been for my uncle who came to our aid, we would by now be out in the streets or back to the family house. I never had this problem in my previous home which was a family home".

Many fewer respondents (5.3%) mentioned the peaceful and quiet features of their previous neighbourhoods compared to 16% who mentioned this feature as the most liked in their present neighbourhoods. Similarly, fewer respondents considered their previous house spacious. Only 5.3% of the respondents mentioned this feature of their house as the most liked in their previous home, compared to 12.8% who mentioned it as the feature most liked in their present home (See Tables 7.1.2 and 7.1.6). Table 7.1.7 shows that 37.2% of all respondents reported that they had fewer rooms in their present home and 27.7% reported that they now have more rooms in their present home

than in their previous home. But more respondents (40.4%) reported that they had less occupants in their present home than in their previous home compared to 33% for those who reported that they now have more occupants. Over crowding was mentioned as the most disliked feature of their previous home by 11.7% of all the respondents (Table 7.1.8). This feature was not mentioned by any respondent when asked about the features they most dislike about their present home.

**Table 7.1.6**  
**What did you like most about your previous home?**  
**(Percentage distribution)**

	PO	PR	PH	All
Water supply	42.9	31.3	12.0	28.7
Rent free	0.0	14.6	28.0	14.9
Friendly neighbours	9.5	4.2	12.0	7.4
Sanitation	9.5	2.1	8.0	5.3
Peaceful and quiet	9.5	6.3	0.0	5.3
Spacious house	0.0	6.3	8.0	5.3
Sufficient backyard	0.0	2.1	0.0	1.1
Good landlord	0.0	4.2	0.0	2.1
Electricity supply	0.0	2.1	0.0	1.1
Toilet facilities	4.8	8.3	0.0	5.3
Good housing	0.0	2.1	0.0	1.1
Single family detached house	0.0	2.1	0.0	1.1
Secured home	4.8	0.0	4.0	2.1
Good location	4.8	0.0	8.0	3.2
Near my work place	0.0	0.0	12.0	3.2
Transportation	0.0	0.0	4.0	1.1
Others	14.3	6.3	0.0	6.4

While 61.7% of the respondents mentioned water supply as the feature most disliked about their present home, only 7.5% mentioned this feature as the most disliked about their previous home. Likewise for electricity supply with 3.2% disliking it most in their previous home compared to 11.7% for their present homes. More respondents disliked other features of their previous homes than of their present homes. These include noisy neighbours, toilet facilities, spacious home, in addition to over crowding already mentioned.

**Table 7.1.7**  
**Present and previous home compared in terms of**  
**quality, size and no. of occupants (Percentage distribution)**

Features	a %ge of all respondents
<b>1 Quality</b>	
Present home is worse than previous home	40.4
Present home the same as previous home	21.3
Present home is better than previous home	38.3
<b>2 Size of house</b>	
Less rooms in present house	37.2
Same number of rooms in both houses	35.1
More rooms in the present house	27.7
<b>3 Number of occupants</b>	
More occupants in present home	3.0
Same number of occupants in both homes	26.6
<u>Less number of occupants in present home</u>	<u>40.4</u>

**Table 7.1.8**  
**Features disliked most about previous home**  
**(Percentage distribution)**

	PO	PR	PH	ALL
Water supply	4.8	10.4	4.0	7.5
High rent	0.0	0.0	12.0	3.2
Over crowding	9.5	14.6	8.0	11.7
Insufficient space in home	4.8	8.3	16.0	9.6
Noisy neighbourhood	23.8	10.4	12.0	13.8
Toilet facilities	14.3	10.4	16.0	12.8
Unfriendly neighbours	4.8	6.3	4.0	5.3
Unsafe neighbourhood	0.0	2.1	4.0	2.1
Electricity supply	4.8	4.2	0.0	3.2
Poor roads	4.8	4.2	0.0	3.2
Problems with landlord	0.0	6.3	0.0	3.2
Others	14.3	16.7	16.0	16.0
<u>None</u>	<u>14.3</u>	<u>4.2</u>	<u>8.0</u>	<u>7.5</u>

As regards the quality of their two homes, just over one-fifth (21.3%) of all the respondents considered their present and previous homes to be of the same quality.

Over one-third but less than half reported that their present home was of either a better quality or of lower quality to their previous homes. There were, however, slightly more respondents who considered their present home to be of better quality, with 40.4% responding so compared to 38.3% otherwise.

## 7.2 RESPONDENTS' EVALUATION OF THEIR HOUSING ATTRIBUTES

An important part of the respondents evaluation of their housing is their satisfaction with their present dwelling and their neighbourhood. The respondents were asked to indicate on a four-point scale whether they were very satisfied, satisfied, dissatisfied, or very dissatisfied with their dwelling and neighbourhood as a place to live. The likelihood of moving from their neighbourhood and recommending it to someone they know were also used to assess how they evaluate their neighbourhood. In this section, findings from these assessments are reported and compared to how they evaluate specific attributes in both their dwellings and neighbourhood. These findings will reveal that even though the respondents were satisfied generally with their dwellings and neighbourhoods in Kissy, many of them had mentioned some problems with their dwellings and neighbourhoods and had rated some attributes low. It is very important while interpreting the respondents' level of satisfaction with a particular aspect of their housing and their overall satisfaction, to bear in mind that a distinction should be made between a respondent's level of satisfaction with a particular aspect and his overall satisfaction.<sup>5</sup> In this case, many respondents had mentioned some aspects of their dwelling as things most disliked, yet, they were satisfied with living in the dwelling, and similarly for their neighbourhood. Secondly, previous studies<sup>6</sup> have pointed out that the general tendency is for human subjects to use positive ratings more frequently than negative ones regardless of the phenomenon being rated. Finally, attention should be given to the effects of the previous environment in which the respondent use to live.<sup>7</sup>

Lack of privacy in the residential environment is often a source of irritation. It may significantly influence their feelings about the environment as a whole, including the quality of privacy. In fact, several studies (Cooper, 1972) have found that the lack of visual privacy both inside and outside of the residential environment, has been a source of dissatisfaction.

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<sup>5</sup> It was found that when people are satisfied, they have difficulty in specifying reasons for their satisfaction except in very general terms (Keller, 1968).

<sup>6</sup> Campbell, et al., 1976)

<sup>7</sup> Cooper (1964) found that, while people complained about room sizes, their response to a question about what they liked most about their houses was that they liked the size and spaciousness. People tend to reply in terms of comparisons with what they have known before.



### Evaluation of dwelling attributes

Several residential attribute variables related to the dwellings and their neighbourhoods were presented to the respondents in negative forms who were to evaluate them in terms of their relevance on a three-point scale ranging from 'very true', 'true' to 'not true'. The categories 'very true' and 'true' were collapsed to 'true' and the percentage of respondents who evaluated these attributes for each residential status group are presented in Table 7.2.1.

**Table 7.2.1**  
**Percentage distribution of respondents evaluating dwelling**  
**attributes as being true (Percentage distribution)**

	<u>Residential group</u>			
	PO	PR	PH	ALL
1. The interior or the dwelling is visible to outsiders through open doors	23.8	43.8	66.7	44.7
2. Yards surrounding the house is mostly unused	23.8	16.7	29.2	21.3
3. Not enough storage space in the house	9.5	47.9	45.8	38.3
4. The inside of house is too hot during day time	38.1	64.6	52.0	55.4
5. The inside of house is too hot during night time	30.0	54.2	96.0	59.6
6. The interior of the house is visible to outsiders through open windows	9.5	25.5	32.0	23.7
7. Not much ventilation in the house	14.3	34.1	62.5	37.1
8. Keeping the inside of the house clean and tidy from outside dust is very difficult	52.4	62.5	92.0	68.0
9. Insects cause lots of problems for us	61.9	56.2	92.0	67.0
10 There is not enough daylight in the house	19.0	27.1	36.0	27.7
11 Cracks in walls and ceilings	42.1	40.4	41.7	41.1
12 Leakage through roof / ceiling	33.3	47.9	36.0	41.5
13 Peeling paint, loose plaster on walls	28.6	43.8	65.0	44.9
14 Dampness in building	10.0	22.9	12.0	17.2
15 Broken doors and windows	14.3	34.8	4.3	22.2
16 The place needs minor repairs	40.0	48.9	88.0	57.8
17 The place needs major repairs	10.0	23.3	-	14.0
In the analysis, 'very true' and 'true' categories were collapsed to 'true'. 'Not true' percentages are 100% less than the figures given above.				

As this table indicates, the attributes most favourably evaluated (those with 30% or less of the total sample responding true) were the use of yards surrounding the dwelling

(21.3%), visual intrusion through open windows (23.7%), not enough daylight in the house (27.7%), dampness in the building (17.2%), broken doors and windows (22.2%), and that the dwelling needs major repairs (14%). It is not surprising that the first of these attributes, the use of yards surrounding the dwelling, was rated high with just about a quarter of the respondents saying the yards surrounding their dwellings were mostly unused. First, the interior of the dwellings are hot during the day (Table 7.2.1) with over half (55.4%) reporting thermal discomfort during daytime, and consequently, the families have to use shaded outdoor areas where temperatures can be somewhat lower and convective cooling is effected by increased ventilation. Second, it is traditional for these families to carryout household activities such as cooking and laundry out ofdoors. It was surprising though that the findings revealed that more renters in private housing made more use of their yards surrounding their dwellings with only 16.7% responding that their yards were mostly unused compared to 23.8% for owner occupiers and 29.2% for renters in public low-cost housing. However, more renters in private housing complained about thermal discomfort in their dwelling during daytime with well over half (64.6%) of them reporting that the inside of their dwellings were too hot during the day compared to 38.1% for owner occupiers and 52.0% for renters in public low-cost housing. This finding may partly explain why more PR respondent evaluated the use of the yards surrounding their dwellings favourably.

Visual intrusion through open windows was evaluated more favourably than visual intrusion through open doors. Less than half (44.7%) of all respondents said the interior of their dwelling was visible to outsiders through open doors compared to 23.4% through open windows. Although visual intrusion through open doors was highly reported, yet, privacy in their homes generally was highly rated (Table 7.2.2).

Among the dwelling attributes which were less favourably evaluated were; the inside of the dwelling is too hot during the day and night, dusty interior, problems caused by insects and the dwelling needs minor repairs.

### **Factors accounting for differences in Respondents' assessment of privacy**

Indications that residents both desire and need privacy can be seen in part by the many changes they make to increase privacy of their indoor and outdoor spaces. As mentioned in Chapter 2, the use of several devices (e.g. corrugated sheets) to enclose their compound or screen their outdoor toilets, orientation of entrances to outdoor toilets from the line of sight of outsiders passing-by, or curtains hung in doorways or over window openings, are all directed towards the increase in privacy in their homes. So it is not surprising that over half (59.6%) of all respondents rated the level of privacy in their dwellings to be high (Table 7.2.2)

**Table 7.2.2**  
**Percentage of respondents rating the privacy of their homes**

Residential status	PO	PR	PH	All
Low privacy	-	8.3	-	4.3
Moderate privacy	-	60.4	20.0	36.2
High privacy	100	31.3	80.0	59.5
Total	100	100	100	100
No. of respondents	21	48	25	94
Mean privacy score	3.0	2.2	2.8	2.55
a) Mean ratings are based on the scores of 3 for 'High privacy', 2 for 'moderate privacy', and 1 for 'Low privacy'.				
b) $F(2df \text{ and } 91df) = 23.895 > 3.099$ . Significant difference at the 0.05 level				

There are several factors that may contribute to the respondents' assessment of the level of privacy in their homes. Among these are visual intrusion into the spaces by outsiders considered to be private. In the analysis, there were more reports of visual intrusion through open doors than through open windows, with nearly half (45.2%) of all respondents agreeing with the statement that "the interior of the house is visible to outsiders through open doors" compared to 23.7% for those who agreed with the statement; "the inside of the house is visible to outsiders through open windows" (Table 7.2.4). Although visual intrusion through open doors was more frequently mentioned by the respondents, yet, privacy in their homes in general was rated high with a mean privacy score of 2.55 for all respondents. The mean privacy rating for those who agreed that the inside of their dwellings were visible to outsiders through open doors was 2.43 and 2.67 for those who disagreed. Similarly, the mean privacy rating for those respondents who agreed that the inside of their dwellings were visible to outsiders through open windows was 2.36 and 2.62 for those who disagreed with this statement. Analysis also showed that visual intrusion through open doors was not significantly associated with the respondents' rating of privacy in their dwellings, but visual intrusion through open windows was significantly associated with the respondents' rating of privacy in their dwellings at the 0.05 level of probability.

The difference in the respondents' assessment of privacy due to visual intrusion through open doors and open windows can partly be attributed to the findings from the observations carried out during the interviews which show that most low-income

families leave their outside doors open for most part of the day. This is because, as reported from previous studies<sup>8</sup>, low-income families regard their door ways as extensions of their homes and use them as areas for social interaction. Bedrooms are considered more private and as such visual intrusion through open windows is more likely to be considered as an invasion of privacy than visual intrusion through open doors. When visual intrusion through open doors and open windows limit the individual's privacy, most often curtains are hung over the openings. Hanging curtains over windows are more common than hanging curtains in doorways.

Table 7.2.3  
Percentage of respondents with their outside doors left opened or closed during the interview

	Residential status			
	PO	PR	PH	All
One outside door always opened	71.4	72.9	72.0	72.4
All outside doors always opened	23.8	25.0	28.0	2.1
All outside doors always closed	4.8	2.1	-	2.1
Total	100	100	100	100
No. of respondents	21	48	25	94
The following categories employed were collapsed to the above categories:				
	Front door always opened			
	Front door always closed			
	Back door always opened			
	Back door always closed			

The evaluation of privacy in the home was also different between residential groups. The mean privacy scores for PO, PR, and PH respondents were 3.00, 2.23 and 2.80 respectively. The analysis shows that these scores were significantly different with an F ratio of 23.895 for 2df and 91df much greater than the critical value of 3.099. From the results it can be seen that PO respondents had higher privacy rating in their homes than renters. Among renters, it is surprising to find that PH respondents had a much higher privacy rating in their homes than PR respondents.

As Table 7.2.4 shows, no significant differences were found between the present house type of the respondents and their ratings of privacy levels in their homes. The mean rating was highest for those occupying semi-detached homes (2.67) and least for those occupying Temporary/Pan-body homes (2.25). Similarly, no significant differences were found between the previous house type of the respondents and their rating of privacy levels in their present homes. The mean rating was highest for

<sup>8</sup> For more discussion on this matter see Fried & Gleicher (1970)

respondents who had previously lived in an Adjoining home (2.70), and again least for those who had previously occupied Temporary/Pan-body homes (2.00).

The analysis revealed a significant association between the size of the present dwellings of the respondents in terms of the number of habitable rooms and their ratings of privacy levels in the residential environment. Table 7.2.5 gives the mean privacy ratings of the respondents according to the size of their present dwelling.

**Table 7.2.4**  
**Mean privacy ratings of present homes by present and previous house types**

House type	<u>Mean privacy rating for present and previous homes</u>	
	Present	Previous
Detached house	2.41	2.59
Semi-detached house	2.67	2.53
Flat	2.61	2.31
Adjoining	2.64	2.70
<u>Temporary/Pan-body</u>	<u>2.25</u>	<u>2.00</u>
a) Present house types: $F(1df \text{ and } 28df) = 0.546 < 4.20$ . Not significant at the 0.05 level		
b) Previous house type: $F(1df \text{ and } 28df) = 0.58 < 4.20$ . Not significant at the 0.05 level		
c) Privacy rating based on the scores: 3 for 'High privacy', 2 for 'Moderate privacy', and 1 for 'Low privacy'.		

**Table 7.2.5**  
**Mean privacy ratings by size of present dwelling**

Size of present dwelling	Mean privacy rating
One habitable room	2.25
Two habitable rooms	2.47
Three habitable rooms	2.52
Four habitable rooms	2.76
<u>Five or more habitable rooms</u>	<u>2.64</u>
a) $X^2(14df) = 31.93 > 23.68$ . Highly significant ( $p = 0.004$ ).	
b) Privacy ratings based on the scores: 3 for 'High privacy', 2 for 'Moderate privacy', and 1 for 'Low privacy'	

There are undoubtedly numerous factors other than those already mentioned that may influence the respondents' assessment of the adequacy of the privacy in their dwellings.

Among those which were found to be strongly associated with the respondents' ratings were factors related to the characteristics of their dwellings and the households itself.

The analysis revealed that respondents who had front yards in their homes rated the privacy levels in their homes higher than those without front yards (2.71 versus 2.39), with an F ratio of 7.523 (1df and 92df) greater than 3.948, and was significant at the 0.05 level of probability indicating that those families with front yards in their homes are more likely to have higher levels of privacy. On the contrary, the analysis did not show significant differences in the ratings of the privacy levels by respondents with back yards or without backyards in their homes. Although those with backyards rated the privacy levels in their homes higher (2.59) than those without backyards (2.39), the difference was not significant at the 0.05 level of probability. The result indicates that the presence of backyards in the homes of low-income families did not significantly contribute to the assessment of the privacy levels in the respondents' homes.

As regards the length of stay in the respondents' present dwellings, the analysis did not show significant differences between the mean ratings of respondents who had lived in their present dwellings for less than 5 years (2.38), for those who had lived in their present dwellings for 5 years but less than 10 years (2.64), and those who had lived in their present dwellings for more than 10 years (2.66).

Table 7.2.6  
Mean household size and density by privacy levels

Privacy level	Mean household size	Mean household density
Low privacy	18.5	3.21
Moderate privacy	6.76	2.48
High privacy	8.89	2.46
a) Household size: $F(2df \text{ and } 91df) = 13.22 > 3.099$ . Significant at the 0.05 level.		
b) Household density: $F(2df \text{ and } 91df) = 0.434 < 3.099$ . Not significant.		
c) Analysis based on privacy scores of 3 for 'High privacy', 2 for 'Moderate privacy', and 1 'Low privacy'.		

Among the demographic characteristics found to be significantly associated with the respondents' ratings of the privacy in their homes were the household size, and the education of the head of households. Among the factors which were not found to be significantly associated with the respondents' rating of privacy in their homes include; household income, household density, the occupation and age of the head of

households, enclosure of the respondents' compound<sup>9</sup>, and the current use of the respondents dwellings<sup>10</sup>. As Table 7.2.6 shows, the mean household size for respondents who rated the privacy in their homes low was highest (18.5) compared to those who rated the privacy in their homes moderate and high (6.76 and 8.89 respectively). These mean household sizes were significantly different with an F ratio of 13.22 for 2df and 91df, greater than the critical value of 3.099.

**Table 7.2.7**  
**Rating of privacy by educational levels of heads of households**

Level of education	Mean privacy rating
Primary school	2.80
Secondary school/G.C.E 'O' Level	2.58
G.C.E. 'A' Level	2.00
Teachers' Training Certificate	1.67
Professional institute qualification	2.00
University degree or above	2.40
a) $F(5df \text{ and } 73df) = 2.484 > 2.344$ . Significant at the 0.05 level	
b) Analysis based on the privacy scores: 3 'High privacy', 2 'Moderate privacy', and 1 'Low privacy'	

Significant differences were also found between groups representing the educational qualification of the head of households and the respondents' rating of privacy in their homes. From Table 7.2.7 it is surprising to note that respondents with heads of households educated only at primary level rated the privacy in their homes highest (2.80), while those with a Teachers' Training Certificate rated the privacy lowest (1.67) and respondents with heads of households educated at a university degree level or above scored only third (2.40) after those with heads of households with Secondary School or G.C.E 'O' Levels who had a mean rating of 2.58. However, the differences in the privacy ratings of these groups were highly significant at the 0.05 level of probability. It would seem therefore, that the less educated the head of household the higher the privacy reported in their homes.

<sup>9</sup> The analysis was based upon the results of the environmental assessment tool and the categories used to classify this variable were: 'Compound totally enclosed', 'Compound partially enclosed', and 'Compound not at all enclosed'.

<sup>10</sup> Two categories were used in the environmental assessment tool for this variable: 'Living quarters' and 'Mixed use'.

### 7.3 RESPONDENTS' SATISFACTION WITH THEIR HOUSING

#### Satisfaction with the size of the respondents' dwelling

An important part of the study is to measure the respondents' levels of satisfaction with their present dwellings. Using general statements, the respondents were asked to indicate on a four-point scale whether they were very satisfied, satisfied, dissatisfied, or very dissatisfied with first, the size of their dwellings in terms of the number of habitable rooms, and second, with the dwelling as a place to live.

As shown in Table 7.3.1, an analysis of variance carried with the two aspects indicate that there were significant differences. Respondents who were very satisfied with the size of their dwellings had the highest score for the satisfaction with their dwelling as a place to live (3.69), and those who were dissatisfied or very dissatisfied with the size of their dwellings had the lowest scores for the satisfaction with their dwellings as a place to live. The differences were significant at the 0.05 level of probability. However, the mean satisfaction score for the size of the dwelling was much lower (2.84). This indicates that the respondents were more satisfied with their dwelling as a place to live than with its size.

Table 7.3.1  
Satisfaction with the size of the dwelling and the  
house as a place to live

Satisfaction level with size of dwelling	Mean satisfaction score for the dwelling
Very dissatisfied	3.00
Dissatisfied	3.00
Satisfied	3.13
<u>Very satisfied</u>	<u>3.69</u>
Total population	94
Mean satisfaction with dwelling	3.23
<u>Mean satisfaction with size of dwelling</u>	<u>2.84</u>
a) $F(3df \text{ and } 90df) = 10.232 > 2.71$ . Significant at the 0.05 level	
b) Satisfaction score based on: 4 'Very satisfied', 3 'Satisfied', 2 'Dissatisfied', and 1 'Very dissatisfied'.	

The levels of satisfaction with the size of their dwellings as expressed by the respondents were found to be significantly different between the residential groups (Table 7.3.2). The differences were significant at the 0.05 level of probability, with PO



respondents reporting the highest level of satisfaction with the size of their dwellings (3.67). Among renters, PR respondents expressed higher levels of satisfaction with the size of their dwellings than PH respondents (3.15 versus 3.04).

Other factors found to show significant differences in the respondents satisfaction with the size of their dwellings include; the size of the dwelling itself, the type of the respondents' present dwellings, household density and the respondents satisfaction with their children's play areas. Previous house types and size of their previous dwellings did not show significant differences in the respondents' satisfaction with the size of their present dwellings. So were some of the personal characteristics of the households and the heads of household; the age, occupation and educational qualification of the head of household, household income and household size. surprisingly, the length of stay in the present dwelling showed no significant differences in the satisfaction of the respondents with the size of their dwellings at the 0.05 level of probability. Although this was the case, the significance was marginal ( $p = 0.06$ ) and therefore tend to support an association.

**Table 7.3.2**  
**Satisfaction with size of dwelling by residential status**  
**group**

Residential group	Mean satisfaction score
PO respondents	3.67
PR respondents	3.15
<u>PH respondents</u>	<u>3.04</u>
Total population	94
<u>Mean satisfaction score</u>	<u>2.84</u>
a) $F(2df \text{ and } 91df) = 9.32 > 3.099$ . Significant at the 0.05 level	
b) Analysis based on the satisfaction scores: 4 'Very satisfied', 3 'Satisfied', 2 'Dissatisfied', and 1 'Very dissatisfied'.	

As shown in Table 7.3.3, respondents who were very satisfied with the size of their dwelling had the highest number of occupants per household (9.38), compared to 8.33 for those who were satisfied and very dissatisfied, and 8.09 for those who were dissatisfied. The differences in these means were not significant at the 0.05 level of probability. However, the differences in the mean household densities for the different levels of satisfaction with the size of the dwelling were highly significant with the

mean household density decreasing as the satisfaction with the size of the dwelling rises.

**Table 7.3.3**  
**Satisfaction with size of dwelling by household density and size**

<u>Satisfaction level</u>	<u>Mean household</u>	
	<u>density</u>	<u>size</u>
Very dissatisfied	4.17	8.33
Dissatisfied	3.04	8.09
Satisfied	2.28	8.33
Very satisfied	1.84	9.38
a) Household density: $F(3df \text{ and } 90df) = 4.938 > 2.71$ . Significant at the 0.05 level		
b) Household size : $F(3df \text{ and } 90df) = 0.364 < 2.71$ . Not significant		

Table 7.3.4 gives the percentages of respondents with different dwelling sizes in terms of the number of habitable rooms for different levels of satisfaction with the size of their dwellings. It also gives the mean satisfaction scores for different dwelling sizes. As can be seen from the table, the satisfaction score increases as the dwelling size increases. The analysis also indicates that the differences in the mean satisfaction scores are significant at the 0.05 level of probability. This in part explains why household density, which is a function of the size of the dwelling in terms of the number of habitable rooms, was found to be significantly associated with the respondents' satisfaction with the size of their dwellings.

As mentioned previously, the difference between the respondents' satisfaction with the size of their dwellings and the type of their dwellings were significant at the 0.05 level of probability as shown by the analysis, but the differences were not significant for their previous house types as shown in Table 7.3.5. As can be seen, respondents who were living in adjoining buildings had the highest score on satisfaction with the size of their dwelling (3.14), and those living in detached house scoring the next highest (3.07). It is surprising to note that respondents living in adjoining buildings were more satisfied with the size of their dwellings than those living in other types of dwellings. Without adjoining, the trend is for the satisfaction with the size of the dwelling to decrease with the following sequence of dwelling types; Detached, Semi-detached, Flat, and Temporary or Pan-body.

**Table 7.3.4**  
**Satisfaction with size of dwelling and the size of the respondents' dwellings**

<u>Satisfaction level</u>	<u>Dwelling size (No. of habitable rooms)</u>				
	<u>One</u>	<u>Two</u>	<u>Three</u>	<u>Four</u>	<u>Five or more</u>
Very dissatisfied	-	20	-	-	-
Dissatisfied	100	60	52	20	16
Satisfied	-	20	40	40	28
Very satisfied	-	-	8	40	5
Total	100	100	100	100	100
Population	4	15	25	25	25
Mean satisfaction score	2.00	2.00	2.56	3.20	3.40

a)  $F(4df \text{ and } 89df) = 13.325 > 2.471$ . Significant at the 0.05 level

b) Analysis based on the satisfaction scores: 4 'Very satisfied', 3 'Satisfied', 2 'Dissatisfied', and 1 'Very dissatisfied'.

**Table 7.3.5**  
**Satisfaction with size of dwelling by type of present and previous house**

<u>House type</u>	<u>Mean satisfaction score with size of dwelling</u>	
	<u>Present</u>	<u>Previous</u>
Detached house	3.07	2.95
Semi-detached	2.67	2.93
Flat	2.44	2.63
Adjoining	3.14	2.78
Temporary/Pan-body	2.25	2.00

a) Present house type:  $F(4df \text{ and } 89df) = 2.961 > 2.471$ . Significant at the 0.05 level.

b) Previous house type:  $F(4df \text{ and } 89df) = 0.686 < 2.471$ . Not significant

c) Analysis based on the satisfaction scores: 4 'Very satisfied', 3 'Satisfied', 2 'Dissatisfied', and 1 'Very dissatisfied'.

During the interview, many respondents expressed some concern about the lack of children's play areas in their neighbourhoods. This forced some of them to keep most of their children's play activities inside and within the compound of their dwelling and away from the dangers of street traffic and the undesirable influence of undisciplined teenagers. The analysis shows that there were significant differences in the mean scores of the respondents' satisfaction with the size of their dwellings at different levels of satisfaction with the children's play areas. Table 7.3.6 shows that respondents who

were very dissatisfied with their children's play areas were very satisfied with the size of their dwellings (mean score of 4.00). The result, however, does not seem to support any association between the two aspects, as the mean score for those who were dissatisfied with the children's play areas was higher than those who were very satisfied with the children's play areas (2.89 versus 2.56).

**Table 7.3.6**  
**Satisfaction with size of dwelling with children's play areas**

<u>Satisfaction with children's play areas</u>	<u>Mean score for satisfaction with size of dwelling</u>
Very dissatisfied	4.00
Dissatisfied	2.89
Satisfied	2.98
Very satisfied	2.56
Mean for total population	2.87
Population	89

a)  $F(3df \text{ and } 85df) = 2.736 > 2.715$ . Significant at the 0.05 level.

b) Satisfaction scores were: 4 'Very satisfied', 3 'Satisfied', 2 'Dissatisfied', and 1 'Very dissatisfied'.

**Table 7.3.7**  
**Satisfaction with size of dwelling by duration of residence in present dwelling (Percentage distribution)**

<u>Satisfaction level</u>	<u>duration of residence</u>		
	<u>Less than 5 years</u>	<u>5 to 10 years</u>	<u>10 years or more</u>
Very dissatisfied	5.88	-	3.13
Dissatisfied	47.06	35.71	28.12
Satisfied	29.41	42.86	25.00
Very satisfied	7.65	21.43	43.75
Population	34	28	32
Mean satisfaction	2.59	2.86	3.09

a)  $\chi^2 (6df) = 9.495 < 12.592$ . Not significant

b) Analysis based on satisfaction scores of: 4 'Very satisfied', 3 'Satisfied', 2 'Dissatisfied' 1 'Very dissatisfied'.

c) In the analysis, the scale for length of stay in present dwelling was collapsed to the above from the following: 1. 'Less than 2 years', 2 '2 years but less than 5 years', 3 '5 years, but less than 10 years', 4 '10 years, but less than 20 years', and 5 '20 years or more'

Finally, no significant association between the satisfaction with the size of the dwellings and the duration of residence in their dwellings. No significant differences were found in the mean satisfaction scores for those respondents who have lived in their present dwelling for less than five years (2.59), between five years and ten years (2.86), and over ten years (3.09). A chi-square of 9.495 was obtained from the analysis which is less than the critical value of 12.592, indicating that there is no significant association between the respondents satisfaction with the size of their dwellings and the duration of residence in their present dwelling (Table 7.3.7). The mean satisfaction scores however, indicate that those who have lived in their present dwelling longer were more satisfied with its size than those who have lived there for a shorter period, although the results are not significant at the selected level to draw such a conclusion.

### **Satisfaction with respondents' dwelling as a place to live**

The overwhelming majority of respondents (all PO, PH and about 85% of PR respondents) were either satisfied or very satisfied with their dwellings "as a place to live". Significant differences were found between respondents of the three residential groups. As shown in Table 7.4.1, the mean score for respondents in PO households (3.67) was higher than for respondents in PR households (3.15) and PH households (3.04). The difference was significant at the 0.05 level of probability. Therefore, respondents who were owner occupiers were more satisfied with their dwelling as a place to live than renters, and among the latter, renters in private housing were more satisfied than renters in the public low-cost housing.

Several factors were found to be associated with the respondents rating of their satisfaction with their dwelling as a place to live. For example, our previous findings indicated a strong association between the respondents satisfaction with the size of their dwellings and household density, but not with household size. Also the findings did indicate a strong association between the respondents' rating of their satisfaction with the size of their dwelling and with the dwelling as a place to live (Table 7.4.1). We therefore, expected the respondents' rating of their satisfaction with their dwellings as a place to live to be significantly associated with household density and not with household size. On the contrary, the analysis indicated a strong association between the respondents' rating of the satisfaction with their dwelling as a place to live and household size, but not with household density (Table 7.4.2). The table shows that the mean household size increases from a minimum (zero) when the respondents were very dissatisfied with their dwelling as a place to live, to a maximum of 10.52 persons per household when they were very satisfied. Although similar pattern was detected in the

case of household density, the differences in the mean household density values were not significant.

**Table 7.4.1**  
**Satisfaction with dwelling as a place to live by residential group (Percentage distribution)**

<u>Satisfaction level</u>	<u>PO</u>	<u>PR</u>	<u>PH</u>
Very dissatisfied	-	-	-
Dissatisfied	-	4.6	-
Satisfied	33.3	56.3	96.0
Very satisfied	66.7	29.2	4.0
Total	100	100	100
Population	21	48	25
Mean satisfaction score	3.67	3.15	3.04

a)  $F(2df \text{ and } 91df) = 9.32 > 3.099$ . Significant at the 0.05 level

b) Analysis based on satisfaction scores: 4 'Very satisfied', 3 'Satisfied', 2 'Dissatisfied', and 1 'Very dissatisfied'.

**Table 7.4.2**  
**Mean scores for respondents' satisfaction with their dwelling by household size and density**

<u>Satisfaction level</u>	<u>Mean household</u>	
	<u>size</u>	<u>density</u>
Very dissatisfied	0.00	0.00
Dissatisfied	8.00	2.12
Satisfied	7.60	2.55
Very dissatisfied	10.52	2.50

a) Household size:  $F(2df \text{ and } 91df) = 3.597 > 3.099$ . Significant

b) Household density:  $F(2df \text{ and } 91df) = 0.239 < 3.099$ . Not significant

c) Analysis based on satisfaction scores: 4 'Very satisfied', 3 'Satisfied', 2 'Dissatisfied', and 1 'Very dissatisfied'.

Dwelling size was found to be associated with the respondents' satisfaction with the size of their dwellings as reported earlier. In the case of the respondents' satisfaction with their dwelling as a place to live, the differences in their ratings for the different dwelling sizes were not significant. Although this was so, the level of significant obtained from the analysis ( $p = 0.053$ ) however, tended to support an association

(Tables 7.4.3). Similarly, the differences in the respondents' ratings of the satisfaction with their dwelling as a place to live by duration of residence in their dwellings were not significant at the 0.05 level of probability, but unlike the size of the dwelling, their mean satisfaction ratings increase the longer the duration of residence, with a mean rating of 2.59 for those who have lived in their current dwellings for less than 5 years, 2.86 for those who have lived in the dwellings between 5 and 10 years, and 3.09 for those who have lived in their dwelling for more than 10 years. Although the significant level found from the analysis (0.06) was outside the selected limit, it however, tended to support an association .

**Table 7.4.3**  
**Respondents' satisfaction with their dwelling as a place to live**  
**by size of dwelling (Percentage distribution)**

	One Room	Two Rooms	Three Rooms	Four Rooms	Five or more Rooms
<b>Satisfaction level</b>					
Very dissatisfied	-	-	-	-	-
Dissatisfied	-	13.3	8.0	4.0	8.0
Satisfied	100	60.0	84.0	60.0	36.0
Very satisfied	-	26.7	8.0	36.0	56.0
Total	100	100	100	100	100
Population	4	15	25	25	25
Mean satisfaction	3.00	3.13	3.00	3.32	3.50
a) $F(4df \text{ and } 78df) = 2.447 < 2.484$ . Not significant					
b) Analysis based on satisfaction scores: 4 'Very satisfied', 3 'Satisfied', 2 'Dissatisfied', and 1 'Very dissatisfied'.					

In our previous findings, the respondents' satisfaction with the size of their dwelling was strongly associated with the type of the respondents' present dwelling and not with their previous dwellings. Likewise, significant differences were found in the respondents' ratings of the satisfaction with their dwellings as a place to live for the different types of the respondents' present dwellings. No significant differences were found in the case of the types of the respondents' previous dwellings. As shown in Table 7.4.4, respondents who were currently living in an adjoining scored the highest on satisfaction with their dwelling as a place to live, followed closely by those who lived in a Detached house. This distinction which was also apparent between satisfaction with size of the dwelling and the type of the respondent's present dwelling was not detected in the case of the type of the respondent's previous dwelling.

**Table 7.4.4**  
**Satisfaction with the respondents' dwelling as a place to live by**  
**type of dwelling**

<u>Satisfaction level</u>	<u>Mean satisfaction score: Type of dwelling</u>	
	<u>Present</u>	<u>Previous</u>
Detached dwelling	3.34	3.21
Semi-detached dwelling	3.00	3.40
Flat	3.00	3.13
Adjoining	3.55	3.26
Temporary/pan-body	3.00	3.00

a) Present dwelling type:  $F(4df \text{ and } 74df) = 4.19 > 2.492$ . Significant at the 0.05 level  
b) Previous dwelling type:  $F(4df \text{ and } 74df) = 0.91 < 2.492$ . Not significant  
c) Analysis based on satisfaction scores: 4 'Very satisfied', 3 'Satisfied', 2 'Dissatisfied', and 1 'Very dissatisfied'.

**Tables 7.4.5**  
**Satisfaction with present dwelling as a place to live with the**  
**respondents rating of the quality of their previous dwelling in terms of**  
**their present dwelling (Percentage distribution)**

<u>Satisfaction level</u>	<u>Much better than present</u>	<u>Better than present</u>	<u>Same as present</u>	<u>Worse than present</u>	<u>Much worse than present</u>
Very dissatisfied	-	-	-	-	-
Dissatisfied	10.5	10.5	4.8	5.9	-
Satisfied	57.9	68.4	66.7	55.9	100
Very satisfied	31.6	21.1	28.5	38.2	-
Total	100	100	100	100	100
Population	19	19	21	34	1
Mean satisfaction	3.21	3.11	3.24	3.32	3.00

a)  $F(4df \text{ and } 89df) = 0.481 < 2.471$ . Not significant at the 0.05 level.  
b) Satisfaction scores based on: 4 'Very satisfied', 3 'Satisfied', 2 'Dissatisfied', and 1 'Very dissatisfied'.

Another aspect relating to the respondents' previous dwelling investigated was its quality as compared to the quality of their present dwelling. The differences in the respondents' rating of the satisfaction with their current dwelling as a place to live according to those who said their previous dwellings were much better, better, same, worse, or much worse than their present dwelling were not significant at the 0.05 level of probability. It would seem therefore, that the respondents' previous housing experience as expressed in terms of its type, size and quality does not contribute



towards their evaluation of their satisfaction with their current dwelling. These results tend to contradict findings reported in other studies carried out by previous researchers, notably Schorr (1970) who noted that housing influence satisfaction, but within the limit of several general qualifications; among them, satisfaction expresses a relationship between where a person has lived and his current housing. Also Cooper (1964) reported similar result and pointed out that most respondents tend to reply to a general question about their house in terms of comparisons with what they had known before.

Several other factors were believed to be associated with the respondents' rating of the satisfaction of their dwelling as a place to live among those already discussed. These include the respondents' perception of problems in their dwellings. Two sets of problems were investigated; those relating to the physical condition of the dwellings, and those related to the internal environment in their dwellings. Regarding problems of the former types the respondents were asked how true were the various problems as applied to their dwellings, and they were required to say whether they were 'very true', 'true', or 'not true'. The first two categories were collapsed to 'true', and the results of the analysis of variance performed between the respondents' rating of the satisfaction with their dwellings as a place to live and their perception of the problems are presented in Table 7.4.6.

Table 7.4.6

Mean satisfaction rating of the dwelling as a place to live with the respondents' perception of problems relating to the physical condition of their dwellings.

Perception of problems	Problems relating to the physical condition of dwelling						
	PP1	PP2	PP3	PP4	PP5	PP6	PP7
True	3.19	3.15	3.10	2.75	2.95	3.17	2.75
Not true	3.25	3.29	3.37	3.32	3.31	3.32	3.28
Population	90	94	89	93	90	90	86

- a) PP1 - Cracks in walls/ceiling :  $F(1df \text{ and } 88df) = 0.205 < 3.952$ . Not significant  
 PP2 - Leakage through walls/ roof :  $F(1df \text{ and } 92df) = 1.296 < 3.948$ . Not significant  
 PP3 - Peeling paint, loose plaster on walls/ceiling:  $F(1df \text{ and } 87df) = 4.724 > 3.953$ . Significant  
 PP4- Dampness in building:  $F(1df \text{ and } 91df) = 15.381 > 3.949$ . Significant  
 PP5- Broken doors and windows:  $F(1df \text{ and } 88df) = 6.479 > 3.952$ . Significant  
 PP6- The place needs minor repairs:  $F(1df \text{ and } 88df) = 1.423 < 3.952$ . Not significant  
 PP7- The place needs major repairs:  $F(1df \text{ and } 88df) = 10.611 > 3.952$ . Significant
- b) Analysis based on satisfaction scores of: 4 'Very satisfied', 3 'Satisfied', 2 'Dissatisfied' and 1 'Very dissatisfied'.
- c) The categories 'Very true' and 'True' were collapsed into 'True'.

As can be seen from the table, respondents who said that the problems as applied to their dwellings were true scored lower on satisfaction with their dwelling as a place to live. However, with three problems i.e., cracks in walls/ceiling, leakage through walls/roof, and that the place needs minor repairs, the differences in the satisfaction scores were not significant at the 0.05 level. Peeling paint and loose plaster on walls and ceiling, the presence of dampness in the building, broken doors and windows, and that the place needs major repairs, showed significant differences in the respondents' rating of the satisfaction with their dwelling as a place to live. Thus indicating that these problems did influence the respondents' assessment of their satisfaction with the dwelling as a place to live.

Table 7.4.7

**Mean satisfaction rating of the dwelling as a place to live with their perception of problems relating to the internal environment**

Perception of problems	Problems relating to the internal environment					
	EP1	EP2	EP3	EP4	EP5	EP6
True	2.94	3.00	2.90	3.03	3.11	3.17
Not true	3.41	3.32	3.41	3.37	3.43	3.31
Population	89	94	92	93	93	94
a) EP1- Not much ventilation in the house: $F(1df \text{ and } 87df) = 17.126 > 3.952$ . Significant EP2- Not enough daylight in the house: $F(1df \text{ and } 92df) = 6.271 > 3.948$ . Significant EP3- Smell from outside can be disturbing: $F(1df \text{ and } 90df) = 20.235 > 3.950$ . Significant EP4- Not enough storage space in the house: $F(1df \text{ and } 91df) = 8.252 > 3.949$ . Significant EP5- The inside of the house is too hot during the night: $F(1df/91df) = 7.544 > 3.949$ . Sig. EP6- The inside of the house is too hot during the day: $F(1df /91df) = 1.119 < 3.949$ Not sig.						
b) Analysis based on satisfaction scores of; 4 'Very satisfied', 3 'Satisfied', 2 'Dissatisfied', and 1 'Very dissatisfied'.						
c) The categories 'Very true' and 'True' were collapsed to 'True'.						

Among the environmental problems in the respondents' dwellings which showed significant differences in the respondents' rating of their satisfaction with the dwelling as a place to live were; inadequate ventilation, daylight and storage space, disturbing smell from outside, and thermal discomfort during night time (Table 7.4.7). It was surprising to note that while thermal discomfort at night time was found to be significantly associated with the respondents' satisfaction with the dwelling as a place to live, thermal discomfort at daytime was not. The reason for such discrepancy may very well be that during the day the household may opt to use shaded outdoor areas when the inside of the dwelling is hot. This option is limited at night time, and coupled with the fact that windows and doors are secured at night time to prevent intruders and

to keep the inside of the dwelling free from mosquitoes may render this problem more acute and will weigh heavily on the minds of the respondents when assessing their satisfaction with the dwelling as a place to live.

Other environmental problems which did not show any significant differences in the respondents' rating of their satisfaction with the dwelling as a place to live include; visual intrusion through open doors and windows, problems caused by insects, difficulty in keeping the inside of the dwelling clean and tidy from outside dust. Even though no significant differences in the respondents' satisfaction ratings were not found, the ratings for respondents who replied positively to these problems were lower than those who replied negatively.

Table 7.4.8  
Rating of satisfaction with the dwelling as a place to live with the  
level of privacy in the respondents' dwelling (Percentage  
distribution).

Satisfaction level with dwelling	Low	Moderate	High
Very dissatisfied	-	-	-
Dissatisfied	25.0	8.8	5.4
Satisfied	25.0	79.4	53.6
Very satisfied	50.0	11.8	41.0
Total	100	100	100
Population	4	34	56
Mean satisfaction score	3.25	3.03	3.36
a) $X^2$ (4df) = 11.658 > 9.488. Significant at the 0.05 level of probability $F$ (2df and 91df) = 3.619 > 3.099. Significant at the 0.05 level of probability b) Analysis based on the satisfaction scores: ; 4 'Very satisfied', 3 'Satisfied', 2 'Dissatisfied', and 1 'Very dissatisfied'. c) Analysis based on Privacy scores: 3 'High privacy', 2 'Moderate privacy', and 1 'Low privacy'.			

While visual intrusion through open doors and windows were not found to be strongly associated with the respondents' rating of their satisfaction with the dwelling as a place to live, their rating of the privacy in general in their dwelling was found to be strongly associated with their satisfaction with the dwelling. Both the Chi-Square analysis and the analysis of variance showed a significant association between the two ratings (Table 7.4.8). However the figures indicate that the mean satisfaction score dropped from 3.25 for respondents who reported low privacy in their dwellings to 3.03 for those who reported moderate privacy, and significantly increased to 3.36 for those who

reported high privacy in their dwellings. It would seem that visual intrusion through open windows which was found to be strongly associated with privacy may influence the respondents' assessment of the privacy in their homes, but its influence may be minimal when privacy is considered within the broader context of their satisfaction with the dwelling as a place to live.

Some personal characteristics of the head of the household and the household itself including the household income, age, educational qualification and occupation of the head of household were also investigated, but were all found not to have any significant association with the respondents' rating of their satisfaction with the dwelling as place to live.

### **Satisfaction with respondents' neighbourhoods in Kisumu**

In previous sections we examined some of the characteristics of the respondents' immediate neighbourhoods. We also examined the respondents' perception of problems related to their neighbourhoods. In this section, we will discuss the extent to which the previous aspects along with others (i.e., respondents' characteristics) may influence the respondents' ratings of their neighbourhoods.

As it was the case with the respondents' evaluation of their dwellings, most respondents indicated a high level of satisfaction with their neighbourhoods, despite several deficiencies that were observed or reported about the physical conditions of the neighbourhoods. The mean satisfaction rating for the neighbourhoods in Kisumu as a place to live, as shown in Table 7.5.1 (3.19) is slightly less than that for the dwelling as a place to live (3.23). No significant differences were found in the satisfaction ratings between residential groups, but the figures show similarity with those for the dwelling in that PO respondents had the highest satisfaction score (3.29), higher than for PR respondents (3.21) and PH respondents (3.08). The table also indicates that PO respondents were more satisfied with their dwellings as a place to live than with their neighbourhoods (3.67 versus 3.29). The reverse was found in the case of PR respondents (3.15 versus 3.21) and for PH respondents (3.04 versus 3.08) although these differences were not significant as in the case of PO respondents. Home ownership therefore seems to have considerable influence on how respondents evaluate their dwellings on one hand and their neighbourhoods on the other.

These high satisfaction scores can be attributed to several factors, among them duration of residence in the dwelling and neighbourhood. Our previous findings did not show any strong association between duration of residence in the respondents' current dwelling and their satisfaction with it as a place to live. The findings however, did point in the direction of association. On the other hand, duration of residence in the

immediate neighbourhood was found to be strongly associated with the satisfaction with their neighbourhoods as a place to live. Satisfaction among those who have stayed longer in their neighbourhoods (10 years or more) was higher than those who stayed for 5 years but less than 10 years, and for those who stayed for less than 5 years (Table 7.5.2). The differences in the satisfaction ratings for the different duration of residence were found to be significant at the 0.05 level of probability.

Table 7.5.1

**Satisfaction with the respondents' neighbourhoods in Kissy and their dwellings as a place to live with residential status (Mean satisfaction scores)**

<u>Residential status</u>	<u>Neighbourhood</u>	<u>Dwelling</u>
PO respondents	3.29	3.67
PR respondents	3.21	3.15
PH respondents	3.08	3.04
Total population	3.19	3.23

a) Neighbourhood:  $F(2df \text{ and } 91df) = 0.892 < 3.099$ . Not significant  
b) Dwelling :  $F(2df \text{ and } 91 \text{ df}) = 9.32 > 3.099$ . Significant at the 0.05 level  
c) Analysis based on satisfaction scores: 4 'Very satisfied', 3 'Satisfied', 2 'Dissatisfied', and 1 'Very dissatisfied'.

Table 7.5.2

**Satisfaction with the neighbourhood in Kissy as a place to live by duration of residence (Percentage of respondents)**

<u>Satisfaction level</u>	<u>Percentage of respondents with duration</u>		
	<u>Less than 5yrs</u>	<u>5-10yrs</u>	<u>Over 10yrs</u>
Very dissatisfied	-	-	-
Dissatisfied	8.3	11.8	4.6
Satisfied	91.7	82.3	60.0
Very satisfied	-	5.9	35.4
Total population	12	17	65
Mean satisfaction	2.92	2.94	3.31

a)  $F(2df \text{ and } 91 \text{ df}) = 5.469 > 3.099$ . Significant at the 0.05 level  
b) The following categories for duration of residence were collapsed to the above categories:  
Less than 2 years  
2 years, but less than 5 years  
5 years, but less than 10 years  
10 years, but less than 20 years  
20 years, or more.

Another factor found to be strongly associated with the respondents' satisfaction with their neighbourhoods as a place to live was the respondents' social resource network. The respondents were asked how often do they see their relatives and friends living in their immediate neighbourhoods than those living outside. They were required to say more often, often or less often. Surprisingly, those respondents who saw their relatives and friends in their immediate neighbourhoods less often reported higher satisfaction than those who saw their relatives and friends in their immediate neighbourhoods more often (Table 7.5.3). The differences in their satisfaction ratings were highly significant, indicating that the less the respondents' interact with their relatives and friends in their immediate neighbourhoods than those living outside the more satisfied they were with their neighbourhoods as a place to live.

Table 7.5.3

**Respondents' satisfaction with their neighbourhoods as place to live and their level of social interaction with their relatives and friends in and outside their neighbourhoods (Percentage distribution)**

Satisfaction level	Degree of social interaction with relatives/friends		
	More often	Often	Less often
Very dissatisfied	-	-	-
Dissatisfied	20.0	4.9	4.7
Satisfied	70.0	8.0	58.1
Very satisfied	10.0	17.1	37.2
Total population	10	41	43
Mean satisfaction	2.90	3.12	3.33
a) $F(2df \text{ and } 91df) = 3.35 > 3.099$ . Significant at the 0.05 level			
b) Analysis based on satisfaction scores: 4 'Very satisfied', 3 'Satisfied', 2 'Dissatisfied', and 1 'Very dissatisfied'.			

Other factors examined in relation to the respondents' satisfaction with their neighbourhoods as a place to live include personal characteristics of the head of household, the household itself, the respondents' perception of problems in their immediate neighbourhoods, some characteristics of their neighbourhoods, and characteristics of their present and previous dwellings. Among the factors relating to the respondents' perception of problems in their immediate neighbourhoods examined include the following:

- Vandalism is a problem in the neighbourhood
- Lots of trash, litter in the neighbour

- Smell from outside can be disturbing
- The neighbourhood is very noisy
- There is heavy traffic in the neighbourhood
- Keeping the inside of the house clean and tidy from outside dust is very difficult
- The neighbourhood is unsafe.

The respondents were required to say whether each of these problems was very true, true or not true as applied to their immediate neighbourhood. In the analysis, the 'Very true' and 'True' categories were collapsed to 'True'. Of these perceived neighbourhood problems, only the latter i.e., "the neighbourhood is unsafe", showed significant difference in the respondents' rating of the satisfaction with their neighbourhoods as a place to live (Table 7.5.4). As the table shows, respondents who perceived these problems as being true had lower satisfaction scores than those who perceived them as not being true. But for one problem i.e., "the neighbourhood is unsafe", all the neighbourhood problems did not show any significant differences in the respondents satisfaction ratings.

Table 7.5.4  
Mean satisfaction rating of respondents' neighbourhood as a place to live and perceived neighbourhood problems

Perception of problems	<u>Mean satisfaction rating for perceived problem relating to:</u>						
	Vandalism	Litter	Smell	Noise	Traffic	Dust	Safety
True	3.15	3.10	3.16	3.13	3.00	3.07	3.13
Not true	3.30	3.22	3.23	3.28	3.20	3.23	3.39
Population	94	94	92	90	94	94	94

a) Vandalism:  $F(1df \text{ and } 92df) = 1.364 < 3.948$ . Not significant  
 Litter :  $F(1df \text{ and } 92df) = 0.876 < 3.948$ . Not significant  
 Smell:  $F(1df \text{ and } 90df) = 0.275 < 3.950$ . Not significant  
 Noise:  $F(1df \text{ and } 88df) = 1.259 < 3.952$ . Not significant  
 Traffic:  $F(1df \text{ and } 92df) = 0.395 < 3.948$ . Not significant  
 Dust:  $F(1df \text{ and } 92df) = 2.442 < 3.948$ . Not significant  
 Safety:  $F(1df \text{ and } 92df) = 4.414 > 3.948$ . Significant at the 0.05 level.

b) Analysis based on satisfaction scores: 4 'Very satisfied', 3 'Satisfied', 2 'Dissatisfied', and 1 'Very dissatisfied'.

Other factors looked at include the personal characteristics of the head of household (Age, Educational qualification, and occupation), the characteristics of the household

(Household income, size and density), present and previous dwelling types, the physical condition of the present dwelling (whether it needed major or minor repairs), did not show any significant differences in the respondents' ratings of the satisfaction with their neighbourhoods as a place to live.

The features of the respondents' neighbourhoods liked most, friendly neighbours, good location; good housing, peaceful and quiet, and others (including communal facilities such as Mosque, hospital church school), also did not show significant differences in the respondents' ratings of the satisfaction with their neighbourhoods. However, those respondents who mentioned friendly neighbours had the highest mean satisfaction rating of their neighbourhood (3.33), followed closely by good location (3.27) as shown in Table 7.5.5.

**Table 7.5.5**  
**Mean satisfaction rating of respondents' neighbourhood as a**  
**place to live and the features most liked in their**  
**neighbourhoods.**

Features most liked	Mean satisfaction score
Friendly neighbours	3.33
Good location	3.27
Peaceful and quiet	3.00
Good housing	3.00
Others	3.00
a) $F(4df \text{ and } 32df) = 0.664 < 2.67$ . Not significant	
b) Analysis based on satisfaction scores: 4 'Very satisfied', 3 'Satisfied', 2 'Dissatisfied', and 1 'Very dissatisfied'	

Other factors relating to the characteristics of the respondents' neighbourhoods; the age of the neighbourhood (whether it is a new, transitional or an old neighbourhood), land use pattern (whether predominantly residential or mixed uses), and the predominant building profile (predominantly low or high rise buildings in the neighbourhood) did not show any significant differences in the respondents' rating of the satisfaction with their neighbourhoods as a place to live.

It would seem from these results that only aspects of the respondents' neighbourhoods relating to their duration of residence, their social resource networks, and safety significantly influenced their assessment of their neighbourhoods as a place to live.



## 7.4

## SUMMARY

If we are to consider the respondents' true feelings about their housing environment in which they live, it is necessary to consider their dwellings on one hand and the neighbourhoods in which they are located on the other as distinct concepts. It is also important to consider aspects relating not only to the respondents' present housing environments but also their previous housing environment, as previous studies have suggested the effect of previous living on an individual's attitude and evaluation of the present living conditions. In light of our findings (including the respondents' voluntary comments) and considering that majority of the respondents were renters, the respondents were in general satisfied with both their dwellings and neighbourhoods.

Another factor which should be considered as mentioned earlier is that previous studies have suggested the tendency for human subjects to use positive ratings more frequently than negative ones regardless of the phenomenon being rated. A similar result was also found among our respondents. Our findings indicate that, despite complaints about the respondents' dwellings and neighbourhoods and the low ratings of some of the attributes, a high level of satisfaction with both the dwellings and the neighbourhoods were reported by the overwhelming majority of the respondents.

While interpreting the results, it is very important to keep in mind the effect of other unforeseen factors, perhaps a shortcoming of the study. Our findings regarding the respondents' evaluation of their housing environment show that:

1. Significant differences were found between respondents who were owner occupiers, renters in private housing and renters in the public low-cost housing. Positive feelings on privacy within the respondents' dwellings, the size of the dwellings, the dwellings in general and the neighbourhoods was found to be higher among respondents who were owner occupiers.
2. A significant difference was also found between the satisfaction with the respondents' dwellings and neighbourhoods for respondents who were owner occupiers in favour of the dwellings, but no significant differences were found for renters.
3. Whereas renters in the public low-cost housing were more positive about the privacy in their homes, they were less satisfied with their dwellings in general than renters in private housing. Owner occupiers were more satisfied with their dwellings than with their neighbourhoods as a place to live
4. Regarding attributes of the respondents' previous housing, the type and size of the respondents' previous dwelling were found not to have any significant effect on the respondents feeling about privacy in their present homes, and

their satisfaction with their dwellings and neighbourhoods in general. Also the quality of the respondents' present dwellings in terms of their previous dwelling did not have any significant influence in the respondents' satisfaction with their current dwelling. These findings are, contrary to suggestions put forward in previous studies.

5. The characteristics of the households i.e., its size and density had different effects on the respondents' evaluation of the privacy, and satisfaction with their dwellings in general. The size of the household in terms of the total number of occupants was found to have significant effect on the respondents' rating of the privacy in their dwellings and their satisfaction with their dwellings in general, but not with their satisfaction with the size of the dwellings. As household size increased privacy in the homes decreased but satisfaction with the house as a place to live rises. Household density was found to have a significant effect on the respondents' satisfaction with the size of their dwellings, and as household density increased the satisfaction with the size of the dwelling decreased.
6. The size of the respondents' current dwelling was found to be significantly associated with the respondents' rating of the privacy in their dwellings and their satisfaction with the size of their dwellings and had no significant effect on the respondents' rating of their satisfaction with their dwellings in general.
7. The type of the respondents' current dwelling was found to be significantly associated with their satisfaction with the size of their dwellings and the dwellings in general, but not with their neighbourhoods.
8. The duration of residence in present neighbourhood was found to be significantly associated with the respondents' evaluation of their neighbourhoods, with those with longer residence being more satisfied with their neighbourhoods. This finding is consistent with those in previous studies that residents with longer duration of residence are more satisfied, although others have pointed out that satisfaction is higher when residents first move into their housing and drops later as the residents realise that their needs and aspirations are not easily met, but rises thereafter as residents tend to adjust to their housing environment thereby reducing their aspirations.
9. Visual intrusion into the respondents' dwellings by outsiders through open windows was found to have a significant negative effect on the respondents' rating of the privacy in their dwellings, while visual intrusion through open doors was not.
10. Another aspect of the residents' dwellings that was found to have significant effect on their evaluation of the privacy in their dwellings was the presence of a front yard in their homes. Those respondents with front yards reported

higher levels of privacy in their dwellings. The presence of backyards had no significant effect.

11. Those respondents who were satisfied with the size of their dwellings reported higher levels of satisfaction with their dwellings in general.
12. The respondents' perception of several problems relating to the physical condition of their dwellings were found to be significantly associated with the respondents' overall satisfaction with their dwellings. When major repairs on their dwellings is required the respondents overall satisfaction is lower. Peeling paint and loose plaster on walls and ceiling, the presence of dampness in the building, and the presence of broken doors and windows were all found to be important factors in explaining the respondents' overall satisfaction with their dwellings.
13. The presence of the following environmental problems in the respondents' dwellings were found to significantly influence the respondents' overall satisfaction with their dwellings; inadequate ventilation, inadequate daylight, insufficient storage space, disturbing smell from outside, and thermal discomfort at night.
14. Unsafe neighbourhood was the single most important neighbourhood problems found to significantly influence the respondents' overall satisfaction with their neighbourhoods.
15. The less often the residents saw their relatives and friends living in their immediate neighbourhoods than those living outside the neighbourhood the more satisfied they were with their neighbourhoods as a place to live
16. Finally, the only personal characteristics of the head of household found to significantly influence the respondents' assessment of privacy in their dwellings was the educational qualification of the head of household, with those educated at G.C.E 'O' Level or below reporting higher levels of privacy than those educated above G.C.E 'O' Level.

## CHAPTER 8

## CONCLUSIONS AND RECOMMENDATIONS

## 8.0 INTERPRETATION

Information gathered and analysed in this study of household intervention in Kissy was primarily obtained from a questionnaire administered to 94 heads of households between Dec. 1990 and February 1991 and from an environmental assessment tool used to guide the investigator in carrying out his observation of the dwelling units and their immediate neighbourhoods. This section will look at specific results from the data analysed and, where applicable, to note their relation to prior research carried out with other populations.

As mentioned in the limitations of the study in the opening chapter, the results presented in this study cannot be expected to be applicable to other populations with different characteristics nor will they be likely to remain applicable to the same population after several years have passed. Further, if this study was repeated today, the results might differ from the present findings if certain methods employed in gathering the data were altered, empirical measures for variables and statistical techniques for analysis were changed. It is believed, however, that findings of the present study not only are amenable to practical application to housing problems in Kissy, but they also provide several bases for more refined design of future research. They can however be reasonably generalised to residents of other low-income housing areas in Freetown that are similar in built form, location and social characteristics. Such a generalisation however, should be handled with caution, as it is unknown to what extent the specific and unique features of Kissy as a place may have influenced the findings.

Twenty-one empirical hypotheses in four groups were presented in this study. The first group of six hypotheses dealt with the relationships between household intervention (HI) and residential satisfaction (RS), and five exogenous variables; available resources (AR), housing management control (HM), previous housing experience (HE), preferred housing (HP), and residential attachment (RA). Of these three hypotheses were supported by the analysis of the data collected in this study. HI was found to be strongly associated with RS, RA and HM with correlation coefficients as high as  $r = 0.20$ , a criterion selected as a rough indicator of association, and significant at the probability of 0.05 or lower, a measure of the probability that the association between the paired variables was not due to chance. The three other hypotheses which involved

the association of HI with AR, HP and HE were rejected, indicating that the paired variables were not associated significantly at the selected criterion.

The second group of hypotheses dealt with the demographic characteristics of the household and its head. This group also consists of six hypotheses predicting significant association between HI and the demographic variables of; household density, household size, household income, the age, educational qualification, and occupation of the head of household. Two of these six hypotheses were supported by this study. The association between HI and household size, and between HI and household income were found to be positive and significant at the selected criteria, and the associations between HI and household density, the age, educational qualification and occupation of the head of household were not significant. The study therefore failed to support these four hypotheses.

The third group of hypotheses also relates to a demographic variable of the households, the residential status. There were three hypotheses in this group, the first of which compares the relationship between HI and RS for the three residential status groups, owner occupiers (PO), renters in private housing (PR), and renters in the public low-cost housing (PH). The association between HI and RS was significant at the selected level of probability of 0.05 or lower for PO households but not for PR and PH households. Thus rejecting our hypothesis that RS will be higher the higher HI is for the three residential status groups. The analysis also showed that owner occupiers intervened more than renters and the difference was significant at the selected level of probability of 0.05 or lower. Thus supporting our hypothesis that owner occupiers will intervene more in their housing than renters. A significant difference was also found between the levels of HI for PR and PH households thus rejecting our hypothesis that there will be no significant difference in the levels of HI for the two residential status groups.

The last group of hypotheses dealt with household intervention as improvement and maintenance and the demographic variable, residential status. The analysis showed that the association of RS with household improvement and household maintenance were not significant at the 0.05 level of probability or lower, and thus rejected the hypotheses that the more improvements or maintenance carried out by low-income residents of Kisumu in their housing the more satisfied they will be with their housing. Household improvement made by owner occupiers and renters were found to be significantly different, with owner occupiers carrying out more improvements in their homes than renters. This supported our hypothesis that owner occupiers will carry out more improvements in their homes than renters. Also a significant difference was found in the improvements made by PR and PH households. Thus failing to support our prediction

that there will be no significant difference in the improvements made by PR and PH households. The analysis also supported our predictions that owner occupiers will carryout more maintenance in their homes than renters and that there will be no significant difference between maintenance carried out by PR households and PH households in their homes, as significant difference was found between the maintenance scores for owner occupiers and renters but not between the scores for renters in the two sectors. Finally, the difference between the improvement scores and maintenance scores for the whole sample and for the three residential status groups was significant at the selected criterion, but with the improvement scores higher than the maintenance scores. Suggesting that more improvements were carried out than maintenance in their homes and fails to support our hypothesis that the residents will carryout more maintenance in their homes than improvements.

### **Household intervention**

As noted earlier that the more the residents intervened in their housing the more satisfied they were with it. Therefore household intervention in general among low-income households in Kisumu in their housing is an active intervention. If on the other hand we look at the relationship between HI and RS for the different residential groups a different picture emerges altogether. While active intervention was found among owner occupiers, no significant relationship between HI and RS was found among renters in both private and the public low-cost housing. For renters in private housing the relationship was positive although not significant and negative but not significant for renters in the public low-cost housing. These results suggest weak relationships between HI and RS for renters, and the failure to find significant associations between the two variables may very be that the relationship is curvilinear as it has been suggested by previous researchers (Morris & Winter, 1978). The positive and negative satisfaction tendencies among renters in private housing and those in the public low-cost housing respectively may suggest that families in private housing tend to be involved in active intervention while those in public housing tend to be involved in passive intervention. The implication of this is that those families in private housing have long term planning objectives when intervening in their housing, while those in public housing tend to have a short term planning objective when intervening in their housing. This seems to draw support from the findings in chapter 5 which showed that improvements involving structural changes were carried out more by families in private housing (PO and PR households) than renters in public housing who carried out more improvements involving changes of a non-structural kind. An explanation of the results found among renters in public low-cost housing may be attributed to the perceived possibility of obtaining better homes to their liking. They therefore make the best of what they have in order to be more comfortable. Remarks such as "you have to look

decent to have any self-respect", or "we may be poor but we are not dirty" were frequently heard in conversations with the residents.

#### **Available resources**

It was predicted that the more financial, social and physical resources available to the residents the more they will intervene in their housing. The composite scale used to measure this variable was derived from seven items in the questionnaire which include the physical condition of their dwelling, the financial constraints in intervening in their housing, the difficulty in obtaining labour and materials for the work, and the assistance offered by neighbours. The analysis showed high internal consistencies among the scales and a high reliability of the composite scale. The analysis also revealed no significant association between AR and HI. The failure of the study to support our hypothesis is interesting to speculate about. However the more resources available to the residents the more satisfied they were generally with their housing.

#### **Residential attachment**

The data collected and analysed in this study indicated that the more the residents identified themselves with their housing the more they intervened in it. The RA scale was derived from four items in the questionnaire and tests performed showed high internal consistencies and reliability as measured by the item-to-total correlation and the cronbach alpha value. The items include; interaction with relatives/friends in the immediate neighbourhood, conversation with neighbours, knowledge of neighbours, duration of residence in the neighbourhood and the present dwelling. The study also indicated that duration of residence in the immediate neighbourhood was one of the two factors together with neighbourhood safety that was found to influence the respondents' satisfaction with their neighbourhoods a place to live. Duration of residence in the present dwelling, on the other hand, was not found to be significantly associated with their satisfaction with their dwellings as a place to live. The study also revealed that the less often the residents saw their relatives/friends in their immediate neighbourhoods than those living outside the neighbourhoods the more satisfied they were with their neighbourhoods as a place to live. Also the features frequently referred to as the most liked were more those attributed to their neighbourhoods than the dwelling units themselves.

#### **Previous housing experience**

Previous housing experience, a variable which matches the residents present housing and their previous housing allows for factors relating to their previous housing to be looked at in terms of their intervention and evaluation in their present housing. The composite scale derived from five items in the questionnaire showed high internal consistencies among the individual scales and a reliability very close to the required

minimum. The items include the type, quality, size of the dwelling, household size, and location of previous home in terms of present home. Contrary to our prediction that the residents will intervene more in their housing the more it matches their learned expectations which are derived from their previous housing experience, no significant association was found between HE and HI. However, HE was found to be significantly associated with the overall satisfaction with their housing (RS). When factors relating to their previous housing alone were examined in relation with their satisfaction with their neighbourhoods as a place to live, no significant association was found. It would seem that the residents derive satisfaction in their housing in general from the comparison they make between their present homes and their previous homes, but not from the characteristics of their previous housing per se.

### **Preferred housing**

This variable represented the match between the residents' present home and their preferred home derived by combining three factors the type and size of the dwelling, and the height of the building in which the dwelling is located. Analysis of these scales showed high internal consistencies and a reliability close to the recommended minimum. Contrary to our prediction HP was not significantly associated with HI. It was however, strongly associated with RS but in the negative direction. Therefore the more the residents present home matches their preferred home the less satisfied they were with their housing.

### **Housing management control**

Our prediction was that housing management control will be positively associated with HI, the more control the residents have over their housing the more they will intervene in it. Our study supports this prediction and indicated that as HM increases HI increases. The HM composite scale was derived from four items in the questionnaire which included the privacy, control the residents have over their dwellings, the perceived interference of the rules in the respondents' intervention in their housing, and the security of tenure. Of these items, the perceived interference of the rules in the respondents' intervention in their housing was rated most favourably, while the security of their tenure was the least favourably evaluated. The evaluation of privacy levels by respondents varied for the different residential groups with owner occupiers evaluating it most favourably. PR respondents evaluated the privacy in their homes more favourably than PR respondents. Among the features of the respondents' housing which were found to influence the respondents' evaluation of the privacy in their housing were visual intrusion through open windows, the presence of front yards in



the respondents' dwellings, and the size of their households. Also the more educated the head of household the less privacy they had in their home.

### Household size and household density

Household size a measure of the total number of occupants in a household was found to be significantly associated with HI and RS, while household density was not. The respondents' evaluation of their housing showed that as household size increased the privacy in their homes decreased and their satisfaction with the dwelling as a place to live rose. The failure of the study to support the hypothesis involving household density and HI but supports the hypothesis involving household size is interesting to speculate in light of the influences these variables have on the respondents' evaluation of their housing, and raises questions for which answers need to be sought. While household size is a social factor, household density is a measure of spatial limitation and may also be related to crowding. Does household density have no influence on HI at all or is its influence channelled through another intervening variable such as crowding? At this time we can only speculate due to the lack of information relating to crowding and residents intervention in their housing environment. The answer to this question can only be sought by carrying out further studies that investigate the relationship between crowding and household intervention, and the relationship between density and crowding. Several studies have been carried out in the area of spatial limitation and crowding employing various lines of inquiry such as, animal studies<sup>1</sup>, correlational surveys utilising census tract data<sup>2</sup>, experiments on the use of human space<sup>3</sup>, and experimental studies directly concerned with the effects of crowding on human behaviour. The latter is of two types, those which define crowding in terms of group size<sup>4</sup> and those which manipulate it in terms of room size<sup>5</sup>. Whereas

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- 1 Calhoun, J.B. (1966) "The Role of Space in Animal Sociology". *The Journal of Social Issues*, 22(4): 139-148.
  - 2 Schmitt, R.C (1963) "Implications of Density in Hong Kong", *Journal of the American Institute of Planners*, 29(3): 210-217.  
Schmitt, R.C (1966) "Density, Health, and Social Disorganization," *Journal of the American Institute of Planners*, 32(1): 38-40.
  - 3 Barker, R.G (1968) *Ecological Psychology*, Stanford: Stanford University Press.  
Hall, E. (1966) *The Hidden Dimension*. Garden City, New York: Doubleday.
  - 4 Ittelson, W., H. Proshansky, and L. Rivlin (1970) "The Environmental Psychology of the Psychiatric Ward." In H. Proshansky, W. Ittelson, and L. Rivlin (eds.) *Environmental Psychology*. New York: Holt.  
Hutt, C., and M. Vaizey (1966). "Differential Effects of Group Density on Social Behavior," *Nature*, 209 (26 March): 1371-1372
  - 5 Freedman, J., S. Klevansky, and P. Ehrlich (1971) "The Effects of Crowding on Human Task Performance," *Journal of Applied Social Psychology*, 1: 7-25.

density denotes a physical condition involving the limitation of space, crowding refers to an experiential state in which the restrictive aspects of limited space are perceived by the individuals exposed to them<sup>6</sup>. This represent a model developed for the study of crowding phenomena, and any attempt to apply such a model to developing country such as Sierra Leone should be made with caution.

### **Personal characteristics of the household and its head**

It was predicted and found that the higher the income of the household the more they will intervene in their housing. Household income was also found to be significantly associated with household improvements but not with household maintenance. On the other hand, household income was not found to influence the residents' evaluation of their housing. These results are consistent with those of Beyer <sup>7</sup> who reported from a study carried out in the USA that income was related to improvements. Household income was not found to be significantly associated with household maintenance as some researchers have suggested that expenditure on maintenance and upkeep were positively related to income<sup>8</sup>, nor was the age of the head of household found to be positively associated with maintenance or negatively with improvement<sup>9</sup>. Comparing results from this study with those reported in previous studies should be made with caution as the studies were carried under differing conditions and techniques adopted for quantifying intervention. Education was however the only personal characteristics of the head of household found to be significantly related to the residents' evaluation of the privacy in their homes, with those educated at G.C.E 'O' Level and below reporting higher levels of privacy in their homes. This finding is also consistent with previous studies that residential satisfaction will be higher when desired levels of privacy match the cultural norms for social interaction and privacy which are derive from the residents' education.<sup>10</sup>

### **Residential status**

It was only among owner occupiers that household intervention was found to be related positively to residential satisfaction. This group intervened more in their housing and carried out more improvements and maintenance than renters. Regarding the tendency for owner occupiers to improve their housing more than renters, this finding seem to

6 Stokols, D., Rall, M., Pinner, B., and Schopler, J. (1973) "Physical, Social, and Personal Determinants of the Perception of Crowding" *Environment and Behavior*. March 1973: 67-115

7 Beyer (1952) *ibid*

8 Winger (1973). *ibid*

9 Meeks et al (1974)

10 Schwartz, B. (1972). "The Social Psychology of Privacy," in R. Gutman (Ed.) *People in Buildings*. New York: Basic Books, 1972.

draw support from those reported earlier by other researchers.<sup>11</sup> They were more satisfied with the size of their dwellings, their dwelling and their neighbourhoods in general than renters, and rated the privacy in their home higher. It would therefore seem that home ownership is an important factor in the residents' attitude and evaluation of their housing environment. Moreover, owner occupiers were more satisfied with their dwellings than with their neighbourhoods in general while this was not the case for renters. This also suggests that home ownership largely determines the residents' attitude and evaluation of their dwellings. When the pleasure and self-esteem derived from home ownership<sup>12</sup> is absent, renters tend to turn to their immediate neighbourhoods in general for self-fulfilment and intervene in their housing for comfort as the choice of moving to another home to their liking is limited. Results in this study indicate that the proportion of owner occupiers who carried out improvements involving changes of a structural kind were more than those for renters in both private and public sector housing. This would also suggest that home owners tend to have a more long term objective in improving their homes than renters who tend to have short term objectives and improve their housing to make them comfortable and deal passively with deficiencies in their housing environment.

### **Improvement and maintenance**

Contrary to our prediction that household improvement and maintenance will both be positively associated with residential satisfaction, neither were found to be significantly associated with RS. Likewise, our prediction that the residents will carry out more maintenance than improvements in their homes was not supported by this study. It was found that the residents carried out more improvements than maintenance.

The most common improvement and maintenance activities carried out were not necessarily the most valued. The most common improvement activity carried out by the residents was providing internal furnishings, while the most valued was the addition of an internal toilet. The most common maintenance activities carried out by the residents were repainting the inside of the house and repairing doors and windows, while the most valued was the re-plastering or repairing of outside walls. This suggests that the residents do have preferences in the type of improvement or maintenance to be carried out. These preferences do not wholly depend on the value of the intervention, as we stated in chapter 3 that the value of the goal-object in itself is not a sufficient condition for the household to undertake a particular intervention, but it is in combination with other factors outlined previously, that propels the residents to intervene in their

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11 Morris & Winter (1978). See chapter 3

12 See chapter 7 for the general comments made by some respondents regarding home ownership

housing. Among the factors found to influence their intervention in this study are the income of the household, residential attachment, and housing management control.

It is also interesting to find that outdoor kitchen in the residents home were more valued than an indoor kitchen, but on the other hand, an indoor toilet was more valued than an outdoor toilet. This suggests that the design of low-income housing that incorporates an indoor toilet and an outdoor kitchen would seem to be more desirable to the residents. Painting the inside of the dwelling was more common and valued than the painting of the outside as improvement activities. While the repainting of the inside was more common than the repainting of the outside as maintenance activities, it was less valued. This tend to suggest that buildings for the residents of low-income housing in Kisumu should be designed with external walls requiring less painting so that the residents will confine painting to the inside of their dwellings. The study also indicated that the residents carried out extensive improvement and maintenance in their front yards by providing hedges, lawns or garden, enclosing and paving their compounds. The presence of front yards was also found to be associated with the residents' evaluation of the privacy in their homes.

Data gathered in this study offer several possible relationships and many opportunities for further research in the areas of household intervention and residential satisfaction, along with the variables that influence the residents' intervention in and evaluation of their housing with the aim of improving their housing. Some additional recommendations directed towards research, education and policy that have emerged in the process of carrying out this study will be presented in the following section.

## 8.1

## RECOMMENDATION

The generalisations of the results presented in this study are those that apply to the residents of low-income housing in the neighbourhoods of Kissy, and no claims are made that these generalisations are equally applicable to populations of other neighbourhoods outside Kissy. This situation arises because of the limitations which the study had to cope with. However, when a study of this type has been completed, it is expedient for the researcher to recommend areas where additional programme could be useful or additional information could be gained. These recommendations cover three general areas: research, education, and public policy.

**Research**

Because of some of the limitations of the study, notably the small sample size and the single area in which interviews were conducted, it would be important to continue this line of research in several directions. In this regard it is recommended that:

1. To conduct similar studies in other neighbourhoods of Freetown outside the Kissy area that are alike and different in their physical configurations and social characteristics in order to determine whether the findings reported in this study can be replicated in those neighbourhoods outside the Kissy area.
2. The concept of household intervention be further looked at along with the technique developed in this study to quantify it in terms of its value contents.
3. Further research be carried out on values as they relate to housing, perhaps including analysis for identifying clusters of values to be used instead of value scale for testing relationships of human values with residential satisfaction on one hand and housing improvement and maintenance on the other for families in low-income housing in Freetown.
4. Further research be carried out on household density as it relates to residential satisfaction and housing improvement and maintenance through the intervening variables of space restrictions and crowding. Three ways of measuring density have been suggested<sup>13</sup>; square foot per person, the number of persons per room, or the number of persons per bedroom, of which the second was adopted in this study. Further research adopting the other methods of measuring density as it relates to crowding and eventually residential satisfaction and housing improvement and maintenance would be useful.
5. Further work be carried out to test the validity of the measures of the different variables developed in this study.

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13 Michelson (1976). *ibid*

6. To identify and develop methods of disseminating information concerning residential satisfaction, and housing improvement and maintenance in the hope of adding new or better ways of diffusing information to the families of low-income housing in Freetown in general.
7. Further research is needed which emphasises the relationship of housing improvement to overall quality of life.

### **Education**

With regard to education, the following recommendations are made:

1. To develop educational programmes in terms of educating families of low-income housing in Freetown and those involved with the production of housing for these families of the importance of housing satisfaction in relation to overall quality of life, and to provide them with the necessary skills and knowledge in the areas of housing improvement and maintenance.
2. Some methods be developed to inform residents of low-income housing of available sources of professional advice and services which relate to their housing.

### **Public policy**

The potential for research on the improvement of the housing environment for the majority of the population living in low-income housing with inadequate facilities and poor housing conditions as it influences public policy is a compelling issue. Recommendations that relate to public policy include:

1. Funding for educational programmes relating to housing in general, and in particular housing improvement and maintenance.
2. Setting up information services centres with wide availability for reference to sources of information regarding housing in general and should include in particular self-help for the improvement and maintenance of the existing housing.
3. It would be foolhardy and impractical for the authorities to tear down existing public or private housing stock for development because of the severe shortage of affordable housing in the current market of Freetown. Efforts should be made by the authorities to encourage residents to take active part in improving and maintaining their housing. Although residents perceived the value of community participation in improving their housing, no evidence of actual participation exist in this study.
4. Additional efforts should be made to encourage residents to own their homes whether they are private or public housing.

5. **Emphasis on helping residents who "belong" to the neighbourhood rather than mobile residents would ensure greater success in the authorities efforts in terms of soliciting the active participation of the residents in improving their housing.**
6. **Efforts should also be made to give the residents more control and management of their housing and the rules imposed on them for living in their housing should be directed in such ways that they have minimal interference into the use and control of their housing.**

## 8.2

## SUMMARY

One of the objectives of the present study of families of low-income housing in Kissy, was to determine whether any relationship existed between household intervention and residential satisfaction. Another objective was to identify some of the factors that facilitate or inhibit the residents' intervention in their housing. It was hoped that quantitative methods could be developed to measure household intervention, residential satisfaction and a variety of other factors which may affect the ability of the residents to intervene in their housing.

The primary research question to which this study was directed was; "is there any relationship between the satisfaction residents of low-income housing in Kissy derive from their housing environment and their intervention in it. If so, which factors influence their intervention?" With this question in mind the study was designed with specific objectives in relation to which a set of general and empirical hypotheses was derived. The objectives identified in this study include :

1. To determine the demographic characteristics of the families of low-income housing in Kissy.
2. To determine the extent to which the residents have intervened in their current housing.
3. To determine the relationship between their intervention and the satisfaction they derive from their housing.
4. To determine the relationship between their intervention in their housing and :
  - the resources available to them for intervening in their housing
  - their attachment to their housing environment.
  - the control and use of their housing.
  - their preferred housing
  - their previous housing, and
  - the demographic attributes of the families.
6. To determine the amount of improvement and maintenance carried out by the residents in their housing.
7. To compare the amount of improvement and maintenance carried out by owner occupiers and those who rent their homes.
8. To determine the type of improvements and maintenance carried out by the residents and the values of these activities to the residents.
9. To determine the residents attitudes and evaluation of their housing and how these relate to their intervention in it.



A total of fifteen variables depicting housing attributes and the demographic variables of the household representing the following four groups of hypothesised relationships were derived bearing in mind the above objectives. The hypotheses were:

**Group 'A' hypotheses**

- A1. Residential satisfaction will be higher the more the residents intervene in their housing to fulfil their needs and values.
- A2. The residents of low-income housing in Kisumu will intervene more in their housing the more physical, social, and financial resources available to them.
- A3. The more the residents identify themselves with their housing the more they will intervene in it.
- A4. The residents will intervene less in their housing when it matches their preferred housing.
- A5. The residents will intervene more in their housing the more it matches their learned expectations which are derived from their previous housing experience.
- A6. The more control the residents of low-income housing in Kisumu have over their housing environment the more they will intervene in it.

**Group 'B' hypotheses**

- B1. Residents will intervene more in their housing the higher the household density which represents the number of occupants per habitable room in the household.
- B2. Residents will intervene more in their housing the larger the household size which represents the total number of occupants in the household.
- B3. The higher the income of the household the more they will intervene in their housing.
- B4. The lower the educational qualification of the head of household the more the household will intervene in their housing.
- B5. The older the head of household the more the household will intervene in their housing.
- B6. Residents with lower occupational status will intervene more in their housing.

**Group 'C' hypotheses**

- C1. Residents who are owner occupiers and renters will have higher residential satisfaction the more they intervene in their housing.
- C2. Residents who are owner occupiers will intervene more in their housing than residents who are renters.
- C3. There will be no significant difference in the levels to which renters in private housing and those in the public low-cost housing intervene in their housing.

**Group 'D' hypotheses**

- D1. Residential satisfaction will be higher the more improvements or maintenance carried out by the residents in their housing.**
- D2. Residents who are owner occupiers will carry out more improvements in their housing than those who are renters.**
- D3. There will be no significant difference between the improvements renters in private housing and renters in the public low-cost housing make in their housing.**
- D4. Owner occupiers will carry out more maintenance in their homes than renters.**
- D5. There will be no significant difference between the maintenance carried out by renters in private housing and renters in the public low-cost housing.**
- D6. Residents will carry out more maintenance in their home than improvements.**

Using the foregoing objectives and hypotheses as a base, a questionnaire and an environmental assessment tool were developed and pre-tested for use with families in low-income housing in Kissy, Freetown. A sample was selected at random. The eligibility of the households who took part in the survey which provided data for the study was based on the following:

- 1. The household must consist of a low-income family.**
- 2. The family must have lived in their present dwelling in Kissy for at least two years.**
- 3. The respondents must be the head of household or a close relative of the head of household, and must be an adult over the age of 18 years.**

Eligibility was established by the person conducting the survey who also sought the cooperation of the family for participating in the survey for which remuneration were paid to some respondents. Once the eligibility of the family has been established and their permission obtained the interview was conducted. The interview consisted of two sections. The first section dealt with the questionnaire which had two parts; the first part asked for general information about the family and their housing and this part was administered to the respondents by a helping hand, while the second part was administered by the researcher himself which asked for information about the improvements and maintenance carried out by the households. The second part was the environmental assessment tool which provided guidelines for recording observations of the physical features of the dwellings and their immediate neighbourhoods. This observation was carried out by another helping hand. Both helpers were given two weeks training by the researcher prior to the interviews taking place and were both paid for their services.

Usable questionnaires and the environmental assessment tools were obtained for 94 households. The data were edited, coded, and three data files opened for use with the SPSSPC computer programme available on the IBM compatible machines in the Department. Frequency counts were made for all items, and a general description of the population was prepared. The 94 households surveyed represented 802 individuals with an average household size of 8.8 persons. Of these about half were children below the age of 18 years with an average of 4.5 children per household. About 80% of all respondents were heads of their households and of these nearly 90% were male, the majority (86.2%) were married. Well over half (65%) of the households had monthly income of between Le.3,000 and Le.10,000. Over three-quarters (77.7%) of the households were renters and just over one-fifth (22.3%) were owner occupiers. The majority of the households had previously lived in Freetown before moving into their present home in Kissy. There were more households living in a detached house than in any other type of dwelling, and just over one-third (36.1%) had lived in the present dwelling for less than 5 years but more than two years.

Two scales were developed for quantifying interventions carried out by the households, the expensive and importance scales. The former measured the household's disposition to carryout the intervention and the latter measured the benefit the intervention confers on the household. These two scales were combined to form one scale which represented the score for each intervention. There were sixty-two categories of interventions in all comprising forty-two improvement categories and twenty maintenance categories. These categories were derived from the results of a pilot study conducted in the Kissy area earlier. The intervention scores were summed up to represent scores for the overall household intervention, improvement score, and maintenance score used in the analysis.

To represent the RS score four items in the questionnaire were combined to derive a composite measure. These items were: the respondents satisfaction with Kissy as a place to live, their satisfaction with their dwelling as a place to live, their satisfaction with the size of their dwelling, their satisfaction with children's play areas, and the likelihood of recommending Kissy to someone they know as a place to live.

Other composite scales were derived for factors hypothesised as significantly associated with HI. These were: Available resources, which combines seven items in the questionnaire dealing with the physical condition of the respondents' dwellings, the social, physical, and financial resources available to them; housing management control, combining four items from the questionnaire (privacy levels in their homes, the control they have over their housing, interference of rules in the intervention in their housing, and the security of their tenure); residential attachment, which combined four

items from the questionnaire (including, interaction with relatives and friends, duration of residence in Kissy, knowledge of neighbours, verbal interaction with neighbours); previous housing experience, combined five items (which include, type, quality, size, and occupancy levels of previous home as compared to present home, and social interaction of previous neighbourhood as compared to present neighbourhood); preferred housing, combining three items (including type and size of preferred dwelling, and height of building in which dwelling is located as compared to present dwelling). Tests for the internal consistencies of these scales and their reliability as measures by their item-total correlations and cronbach alpha values showed high consistencies and reliability of the scales.

Other factors hypothesised as significantly associated with HI include the demographic characteristics of the households and their heads; residential status, household density, household size, household income, the age, educational qualification, and the occupation of the head of households.

In all, twenty-one empirical hypotheses were examined. Three tests of hypotheses were performed. The first, a correlation analysis determined the Pearsonian correlation coefficients of pairs of variables which include HI, RS, AR, HM, RA, HE, HP, and demographic factors. If the coefficients for a pair of variables was below  $r = \pm 0.2$  for all the sample,  $r = \pm 0.44$  for PO households,  $r = \pm 0.28$  for PR households, and  $r = \pm 0.38$  for PH households, the hypothesis that there is an association between the two variables was rejected. Where the value of 'r' is equal or greater than the above values, a chi-square test was performed to determine whether the probability that the association of the two variables was due to chance was not higher than 0.05. Chi-square tests were also performed in examining hypotheses that involved variables with ordinal scales, those of the demographic characteristics; residential status, household income, the age, educational qualification, and occupation of the head of household. A chi-square test that yields a probability that the association of two variables was due to chance of 0.05 or higher rejects the hypothesis that there is an association between the two variables.

The third type of test involved the analysis of variance which compared the mean HI scores for the different residential status groups, and also compared improvement and maintenance scores. Tests which showed that the F value was less than the critical value and yields a probability of 0.05 or higher indicated that the differences between the groups were not significant, but those with F value higher than the critical value and a probability of 0.05 or less indicated that the differences were significant and not due to chance.

## 8.3

**CONCLUSIONS**

In concluding from the findings presented in this study it is necessary to do so in light of the implications they might have on public policies designed to effect housing improvement among low-income residents in Kisumu. Policy making should therefore recognise the importance of interventions by these households in their housing and that this has a positive influence on their satisfaction with their housing environment. Effort should also be made to increase home ownership among low-income households in Kisumu and where this is not possible renters should be given more control over their housing as they will intervene more in it to improve its quality.

In terms of tenant selection and re-housing of these families preference should be given to those families who are more attached to their neighbourhoods, as the study indicates that those families who are more attached to their neighbourhoods will intervene more in their housing. These families are those who have lived in their neighbourhoods longer, have friends and relatives living in the neighbourhoods and are more integrated into their local communities. The results also show that those families whose present housing matches their preferred housing are more satisfied with their present homes. It is therefore important to give consideration to the prospective households' preferred housing when such selections are been made.

Problems relating to the physical condition of the respondents' dwellings, peeling paint and loose plaster on walls and ceiling, the presence of dampness, broken doors and windows, significantly influenced the respondents' evaluation of their dwelling. These are problems which the residents can cope with provided they are encouraged to own their homes or are given greater control of their housing. Inadequate ventilation and day-lighting, insufficient storage space, and thermal discomfort were among the environmental problems found to significantly influence the respondents' evaluation of their dwelling. The impact of these problems on the residents' evaluation of their housing can be minimised if considered in the design of their dwellings. Effort should also be made to improve the safety of their neighbourhoods as this was found to be the single most important environmental factor which influenced the respondents' satisfaction with their neighbourhoods.

The results also indicate that the households made more improvements to their homes than maintenance. It is therefore important in terms of educating and disseminating information to these families concerning the values in improved housing quality that maintenance of existing features of their housing is an important component of what eventually leads to better housing for all.

It is also important to note the influence the demographic characteristics of the households had on their intervention. Households with higher numbers of occupants were found to have carried

out more interventions and also reported higher levels of satisfaction with their housing. Those households with higher income also intervened more in their housing. However, households with heads educated above G.C.E 'O' level reported less privacy in their homes. Privacy in their homes can be improved if their dwellings are provided with front yards and windows positioned to avoid visual intrusion by outsiders. Finally, housing design for these families should consider the provision of internal toilets coupled with an outdoor kitchen where possible as these features were highly valued by the respondents. The external walls should consist of materials which reduce or eliminate painting by the residents.

Available resources, preferred housing and previous housing experience were not significantly associated with household intervention. Perhaps a research design which examines the relationship between available resources and household intervention when the physical condition of the dwelling is excluded may yield different result. It would also be advantageous if housing norms are established so that deviations of preferred housing from these norms are used in determining the relationship between preferred housing and household intervention. These constitute additional recommendations in the area of research.

The method employed in this study is based on several assumptions and limitations. In addition to the limitations mentioned earlier which this study had to cope with is the general limitation imposed by virtue of the methods adopted, which typical of all social science methods tend to approximate to the logic of experimental design (Stouffer, 1950). Individuals show great variation in their evaluative criteria, and vary with time. This study has been designed to target these subjective evaluations of the respondents and any objective measure developed can only be a surrogate of the concept it is intended to measure. It is therefore difficult to piece together these individual responses with any clarity or focus. The main instrument employed in gathering data contained in this study is the residents' survey questionnaire supplemented with the environmental assessment tool. Considerable measures were adopted in safeguarding against biased responses which ranged from the pre-testing of the instruments and their restructuring to make them adaptable to local conditions in Kissy, through to the careful selection of respondents who reflect varying characteristics of the population to the systematic and cautious approach in administering the instruments in order to increase response reliability. The validity of the data would therefore primarily depend on the independent responses, the adequacy and truthfulness of the subjects in answering the questions, factors beyond the researcher's control. Finally, the study was limited to a particular area of Freetown and caution should therefore be exercised in generalising the findings reported in this study to other areas outside Kissy, as it is not known to what extent the specific and unique features of Kissy as a place may have influenced the findings. Nonetheless, the work presented here can be considered as one of many steps needed to further research aimed at throwing light on housing improvement by low-income residents in Freetown and its relationship with the overall quality of life.

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## **APPENDIX 'A'**

### **Survey Questionnaire and Environmental Assessment Tool**

## APPENDIX A

### KISSY LOW COST HOUSING SURVEY      November 1990

#### SURVEY QUESTIONNAIRE

Household code.....      Date of interview.....

Interview type : Head of household      ☐      Time started.....

Interviewer.....      Time completed.....

Respondent other than head of household ☐

Relation to head of household.....

Age      15 - 24 years      ☐

            25 - 34 years      ☐

            35 - 44 years      ☐

            45 - 54 years      ☐

            55 years and over      ☐

Single ☐ Married ☐ Widowed ☐ Divorced / separated ☐

Educational qualification      .....

Present occupation.....



1DE	Would you like to indicate the age group that applies to the head of household ?	<p>1. 15 years, but less than 24 years <input type="checkbox"/></p> <p>2. 25 years, but less than 34 years <input type="checkbox"/></p> <p>3. 35 years, but less than 44 years <input type="checkbox"/></p> <p>4. 45 years, but less than 54 years <input type="checkbox"/></p> <p>5. 55 years and over <input type="checkbox"/></p>	5DE	What is the size of your household ?	<p>1. No. of adults (18 years and above).....</p> <p>2. No. of children (below 18 years ).....</p>
2DE	Is the head of household single, married, widowed, divorced or separated ?	<p>1. Single <input type="checkbox"/></p> <p>2. Married <input type="checkbox"/></p> <p>3. Widowed <input type="checkbox"/></p> <p>4. Divorced / separated <input type="checkbox"/></p>	6DE	Who is the head of household ?	<p>1. Husband <input type="checkbox"/></p> <p>2. Wife <input type="checkbox"/></p> <p>3. Son <input type="checkbox"/></p> <p>4. Daughter <input type="checkbox"/></p> <p>5. Relative <input type="checkbox"/></p> <p>6. Other ..... (specify)</p>
3DE	What type of educational qualification do the head of household have ?	<p>1. Primary school <input type="checkbox"/></p> <p>2. Secondary school / G.C.E 'O'level <input type="checkbox"/></p> <p>3. G.C.E. 'A' Level <input type="checkbox"/></p> <p>4. Teachers' Training Certificate <input type="checkbox"/></p> <p>5. Professional institute <input type="checkbox"/></p> <p>6. University degree or above <input type="checkbox"/></p>	7DE	Do you own or rent this house ?	<p>1. I own this house <input type="checkbox"/> ---&gt; Goto 9RA</p> <p>2. I rent this house <input type="checkbox"/> ---&gt; Goto 8DE</p>
4DE	What is the present occupation of the head of household	<p>1. Professional worker <input type="checkbox"/></p> <p>2. Civil servant <input type="checkbox"/></p> <p>3. Self - employed <input type="checkbox"/></p> <p>4. Skilled worker <input type="checkbox"/></p> <p>5. Unskilled worker <input type="checkbox"/></p> <p>6. Armed forces <input type="checkbox"/></p> <p>7. Unemployed <input type="checkbox"/></p>	8DE	If you rent this house is your landlord a private individual, Government, Housing Corporation, or your employer ?	<p>1. Private individual <input type="checkbox"/></p> <p>2. Government <input type="checkbox"/></p> <p>3. Housing Corporation <input type="checkbox"/></p> <p>4. Your employer <input type="checkbox"/></p> <p>5. Other..... (specify)</p>
			9RA	How long have you lived in the Kissey area ?	<p>1. 2 years, but less than 5 years <input type="checkbox"/></p> <p>2. 5 years, but less than 10 years <input type="checkbox"/></p> <p>3. 10 years, but less than 20 years <input type="checkbox"/></p> <p>4. 20 years or more <input type="checkbox"/></p>

- 10RA How long have you lived in this particular house ?
1. 2 years, but less than 5 years ☐
  2. 5 years, but less than 10 years ☐
  3. 10 years, but less than 20 years ☐
  4. 20 years or more ☐
- 11RA Why do you choose to live in the Kissy area ?
1. It is near my work place ☐
  2. I have lived here all my life ☐
  3. It is near my relatives and friends ☐
  4. The place is pleasant to live ☐
  5. It is the only place I could find ☐
  6. Other (specify).....☐
  - .....☐
- 12RA If there are two or more reasons to 11RA which one is the most important ?
- .....
- 13RS What are the most important features of the Kissy area that you like ?
1. Good location ☐
  2. Friendly neighbours ☐
  3. Peaceful and quiet ☐
  4. Good housing ☐
  5. Others (specify).....☐
  - .....☐
  - .....☐
  - .....☐

- 14RS If there are two or more features to 13RS which is the most important ?
- .....
- 15DE Are you the first occupant of this house since it was completed ?
1. Yes ☐
  2. No ☐
  3. Don't know ☐
- 16RS How likely would you be to recommend this place to someone you know as a place to live ?
1. Very likely ☐
  2. Likely ☐
  3. Unlikely ☐
  4. Very unlikely ☐
- 17GH What are the most important features of the Kissy area that you dislike ?
1. Water supply ☐
  2. Noisy area ☐
  3. No play ground for children ☐
  4. Electricity supply ☐
  5. Refuse disposal ☐
  6. Unfriendly neighbours ☐
  7. Transportation ☐
  8. Poor shopping facilities ☐
  9. Others(specify).....☐
  - .....☐
  - .....☐

18HE	Now I would like to ask you some questions about your previous home. First, what type of home did you live in before moving into this house ?	22HE	How would you rate your previous home in terms of your present home. Would you say it better, worse or the same ?
19HE	1. Detached (one family) house <input type="checkbox"/> 2. Semi - detached (two family) house <input type="checkbox"/> 3. Flat (three or more family) <input type="checkbox"/> 4. Adjoining (three or more family) <input type="checkbox"/> 5. Temporary / pan-body <input type="checkbox"/> Was the home in Freetown, District capital, Town or Village ?		1. Much better <input type="checkbox"/> 2. Better <input type="checkbox"/> 3. Same <input type="checkbox"/> 4. Worse <input type="checkbox"/> 5. Much worse <input type="checkbox"/>
20HE	1. Freetown <input type="checkbox"/> 2. Suburbs of Freetown <input type="checkbox"/> 3. District capital <input type="checkbox"/> 4. Town <input type="checkbox"/> 5. Village <input type="checkbox"/> How many habitable rooms were in this house ?	23HE	What did you like most about your previous home ? Please tick the most important. 1. .... <input type="checkbox"/> 2. .... <input type="checkbox"/> 3. .... <input type="checkbox"/> 4. .... <input type="checkbox"/> What did you dislike most about your previous home ? Please tick the most important. 1. .... <input type="checkbox"/> 2. .... <input type="checkbox"/> 3. .... <input type="checkbox"/> 4. .... <input type="checkbox"/>
21HE	1. One room <input type="checkbox"/> 2. Two rooms <input type="checkbox"/> 3. Three rooms <input type="checkbox"/> 4. Four rooms <input type="checkbox"/> 5. Five or more rooms <input type="checkbox"/> How many people lived in this house ?	24HE	
	1. 1 - 3 people <input type="checkbox"/> 2. 4 - 6 people <input type="checkbox"/> 3. 7 - 8 people <input type="checkbox"/> 4. 9 - 10 people <input type="checkbox"/> 5. More than 10 people <input type="checkbox"/>	25RS	What do you like most about your present home ? Please tick the most important . 1. .... <input type="checkbox"/> 2. .... <input type="checkbox"/> 3. .... <input type="checkbox"/> 4. .... <input type="checkbox"/>

- 26RS What do you dislike most about your present home ? Please tick the most important.
1. .... ☐
  2. .... ☐
  3. .... ☐
  4. .... ☐
- 27RS How satisfied are you with living in the Kissy area as a place to live Are you very satisfied, satisfied, dissatisfied or very dissatisfied ?
1. Very satisfied ☐
  2. Satisfied ☐
  3. Dissatisfied ☐
  4. Very dissatisfied ☐
- 28DE How many children do you have in your household aged 3 to 9 years ?
1. .... ☐
  2. None ☐
- 29RA Do you have relatives and friends in this neighbourhood ?
1. Yes ☐
  2. No ☐
- 30RA If you have relatives and friends in this neighbourhood, how often do you see them than those living outside the neighbourhood ?
1. Less often ☐
  2. Often ☐
  3. More often ☐
- 31AR Sometimes neighbours do things to help out and make life easier. How often do your neighbours help you out when you are in difficult situations?
1. Always ☐
  2. Some times ☐
  3. Never ☐
- 32HM How would you rate the control you have over this house and your household. Would you say it is high, moderate or low ?
1. High ☐
  2. Moderate ☐
  3. Low ☐
- 33HM Are there rules for living in this house or neighbourhood ?
1. Yes ☐
  2. No ☐
  3. Don't know ☐
- 34HM If yes, how much freedom do they rules give you to alter, change and maintain your house ?
1. Much freedom ☐
  2. Little freedom ☐
  3. No freedom ☐
- 335HM Which rules give you little or no freedom to alter, change or maintain your house ? Please tick the most important.
1. .... ☐
  2. .... ☐
  3. .... ☐

- 36HM    How would you rate your house in terms of the privacy for you and your household. Would you say it is high, moderate, or low ?
- |                |                          |
|----------------|--------------------------|
| 1.    High     | <input type="checkbox"/> |
| 2.    Moderate | <input type="checkbox"/> |
| 3.    Low      | <input type="checkbox"/> |
- 38GH    How many habitable rooms do you have in your house ?
- |                          |                          |
|--------------------------|--------------------------|
| 1.    One room           | <input type="checkbox"/> |
| 2.    Two rooms          | <input type="checkbox"/> |
| 3.    Three rooms        | <input type="checkbox"/> |
| 4.    Four rooms         | <input type="checkbox"/> |
| 5.    Five or more rooms | <input type="checkbox"/> |
- 39AR    How did you pay or finance the changes, alterations, and maintenance to your house ?
- |                                       |                          |
|---------------------------------------|--------------------------|
| 1.    Personal savings                | <input type="checkbox"/> |
| 2.    Current earnings                | <input type="checkbox"/> |
| 3.    Bank loans                      | <input type="checkbox"/> |
| 4.    Borrow from friends / relatives | <input type="checkbox"/> |
| 5.    Other .....                     | (Specify)                |
- 37RS    How satisfied are you with this dwelling as place to live. Are you very satisfied, satisfied, dissatisfied or very dissatisfied ?
- |                         |                          |
|-------------------------|--------------------------|
| 1.    Very satisfied    | <input type="checkbox"/> |
| 2.    Satisfied         | <input type="checkbox"/> |
| 3.    Dissatisfied      | <input type="checkbox"/> |
| 4.    Very dissatisfied | <input type="checkbox"/> |

40RS      Where do your children play when they are not in the house ? Please indicate how satisfied you are with the area that you have indicated as a place for your children to play.

	Very satisfied	Satisfied	Dissatisfied	Very dissatisfied
1. Private play ground	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Front and back yards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. In the streets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. School play ground	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Other.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(Specify)				

41AR      Now I am going to read to you a list of problems that people sometimes have with their houses. Please tell me how true do the following statements apply to your house ?

	Very true	True	Not true
1. Cracks in walls and ceilings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Leakage through roof / walls	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Peeling paint, loose plaster on walls	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Dampness in building	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Broken doors and windows	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. The place needs minor repairs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. The place needs major repairs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

42RS	How satisfied are you with the size of your house in terms of the number of bedrooms ?	1. Very satisfied <input type="checkbox"/> 2. Satisfied <input type="checkbox"/> 3. Dissatisfied <input type="checkbox"/> 4. Very dissatisfied <input type="checkbox"/>	46AR	How difficult was it to get these people to do the work for you if you didn't do them. Was it very difficult, difficult, or not difficult ?	1. Very difficult <input type="checkbox"/> 2. Difficult <input type="checkbox"/> 3. Not difficult <input type="checkbox"/>																																				
43HP	If you are dissatisfied or very dissatisfied with the number of rooms in your present house, how many rooms would you prefer ?	1. One room <input type="checkbox"/> 2. Two rooms <input type="checkbox"/> 3. Three rooms <input type="checkbox"/> 4. Four rooms <input type="checkbox"/> 5. Five or more rooms <input type="checkbox"/>	47AR	How difficult was it to get the required building materials to carryout the works. Was it very difficult, difficult, or not difficult ?	1. Very difficult <input type="checkbox"/> 2. Difficult <input type="checkbox"/> 3. Not difficult <input type="checkbox"/>																																				
44AR	Did you do all or part of the changes, alterations, or maintenance to your house ?	1. Yes, all <input type="checkbox"/> 2. Yes, partly <input type="checkbox"/> 3. No, none at all <input type="checkbox"/>	48GH	In general how would you evaluate the following as they relate to your housing, would you rate them as being good, average or poor ?	<table border="0"> <thead> <tr> <th></th> <th>Good</th> <th>Average</th> <th>Poor</th> </tr> </thead> <tbody> <tr> <td>1. Electricity supply</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>2. Domestic water</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>3. Sewage system</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>4. Recreation facilities</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>5. Public transportation</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>6. Parking</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>7. Greenery</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>8. Street lighting</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </tbody> </table>		Good	Average	Poor	1. Electricity supply	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2. Domestic water	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3. Sewage system	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4. Recreation facilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5. Public transportation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6. Parking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7. Greenery	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8. Street lighting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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8. Street lighting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																																						
45AR	Who did the works in your house if you didn't do them ?	1. Friends <input type="checkbox"/> 2. Relatives <input type="checkbox"/> 3. Hired labour <input type="checkbox"/> 4. Your landlord <input type="checkbox"/> 5. Other.(specify).....																																							

49GH I am going to read out to you some statements. Please tell me how true do the following statements apply to your house and your neighbourhood. Would you say they are very true, true, or not true ?

	Very true	True	Not true
1. The interior of the building is clearly visible to outsiders through open doors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Vandalism is a problem in the neighbourhood	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Yards surrounding the house are mostly unused	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Not enough storage space in the house	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. The inside of the house is too hot during the day	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. The inside of the house is too hot during the night	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. The inside of the house is clearly visible to outsiders through open windows	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Not much ventilation in the house	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Keeping the inside of the house clean and tidy from outside dust is very difficult	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Insects cause lots of problem for us	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. There is not enough daylight in the house	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Lots of trash, litter in the neighbourhood	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Smell from outside can be disturbing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. The neighbourhood is unsafe	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. The neighbourhood is very noisy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. There is heavy traffic in the neighbourhood	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

50RA I am going to read to you some statements about your social activities in your neighbourhood. Please tell me how true these statements are in your case. Would you say they very true, true, or not true ?

	Very true	True	Not true
1. I socialise with my neighbours now more than before moving to this neighbourhood	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I have more friends now than before moving to this place	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. I usually spend a lot of time talking with neighbours around us	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. I know the names of most families around us	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



51AR	If there are two or more sources of finance, which one do you rely on most ? 1.....	56HP	How high would you like the building in which your preferred dwelling is located? Please indicate.  1. Building of one floor <input type="checkbox"/> 2. Building of two floors <input type="checkbox"/> 3. Building of three or more floors <input type="checkbox"/>
52AR	How difficult was it to the obtain finance needed to carryout the changes, alterations, or maintenance to your house. Was it Very difficult, difficult, or not difficult ?  1. Very difficult <input type="checkbox"/> 2. Difficult <input type="checkbox"/> 3. Not difficult <input type="checkbox"/>	57HP	What are the important features you would like present in your neighbourhood ? Please indicate.  1. Good / friendly neighbours <input type="checkbox"/> 2. Clean air <input type="checkbox"/> 3. Adequate street lighting <input type="checkbox"/> 4. Safe play area for children <input type="checkbox"/> 5. Free from heavy traffic <input type="checkbox"/> 6. Adequate refuse disposal <input type="checkbox"/> 7. Privacy from neighbours <input type="checkbox"/> 8. Located near my workplace <input type="checkbox"/> 9. Convenient for shopping <input type="checkbox"/> 10. Free from parking cars <input type="checkbox"/> 11. Quiet surroundings <input type="checkbox"/> 12. Others (specify)..... ..... .....
53AR	Do you think the lack of finance has kept you from making the necessary changes, alterations, or maintenance to your house ?  1. Yes, very much so <input type="checkbox"/> 2. Yes, to some extent <input type="checkbox"/> 3. No <input type="checkbox"/> 4. Don't know <input type="checkbox"/>	58HM	How secured is your tenancy as far as this house is concerned. Would you say it is well secured, reasonably secured, or not secured ?  1. Well secured <input type="checkbox"/> 2. Reasonably secured <input type="checkbox"/> 3. Not secured <input type="checkbox"/>
54AR	Would you say the rent you pay for this house, if you rent it, is very high, reasonably high, or reasonable?  1. Very high <input type="checkbox"/> 2. Reasonably high <input type="checkbox"/> 3. Reasonable <input type="checkbox"/>		
55HP	Now I would like to ask you some questions about your preferred housing. First, what type of house would you like to live in ?  1. Detached (one family ) house <input type="checkbox"/> 2. Semi-detached (two family) house <input type="checkbox"/> 3. Flat (three or more family) <input type="checkbox"/> 4. Adjoining (three or more family) <input type="checkbox"/> 5. Temporary / pan-body <input type="checkbox"/>		

59HM Is there any scheme whereby you could own this house if you are presently a renter ?

1. Yes ☐
2. No ☐
3. Don't know ☐

63HP

I have asked you about a lot of things concerning you and your housing and I appreciate the time you have given to answer all these questions. Is there anything else that you think would make your home and your neighbourhood in Kissy a better place to live in ?

T H A N K      Y O U

.....

.....

.....

.....

.....

.....

.....

.....

60HP If there is a scheme would you like to own this house ?

1. Yes ☐ ---> Goto 62DE
2. No ☐ ---> Goto 61HM
3. Don't know ☐ ---> Goto 62DE

61HM Why don't you want to own this house ? Please give reasons.

.....

.....

62DE I will show you a card with a list of categories of monthly income with a letter code, can you please indicate the letter of the category that corresponds to the total monthly income of your household ?

- |    |                                |                          |
|----|--------------------------------|--------------------------|
| K- | Le200, but less than Le500     | <input type="checkbox"/> |
| D- | Le500, but less than Le1000    | <input type="checkbox"/> |
| L- | Le1000, but less than Le1500   | <input type="checkbox"/> |
| T- | Le1500, but less than Le2000   | <input type="checkbox"/> |
| P- | Le2000, but less than Le3000   | <input type="checkbox"/> |
| R- | Le3000, but less than Le5000   | <input type="checkbox"/> |
| M- | Le5000, but less than Le10,000 | <input type="checkbox"/> |
| C- | Le10,000 and above             | <input type="checkbox"/> |

64HI Now I would like us to consider the interventions you have made in this house since moving in. Would you please name each intervention (changes, alterations, maintenance etc.) you have made during this period, and would you indicate how expensive and important these are ? Please also indicate whether they were made because you wanted to improve the condition of your house or to prevent the deterioration in its condition.

### Intervention

.....

1. Very expensive [ ]	2. Expensive [ ]	3. Inexpensive [ ]
1. Very important [ ]	2. Important [ ]	3. Unimportant [ ]

Reason for intervention -

1.	To improve building	[ ]
2.	To prevent deterioration	[ ]

.....

1. Very expensive [ ]	2. Expensive [ ]	3. Inexpensive [ ]
1. Very important [ ]	2. Important [ ]	3. Unimportant [ ]

Reason for intervention -

1.	To improve building	[ ]
2.	To prevent deterioration	[ ]

.....

1. Very expensive [ ]	2. Expensive [ ]	3. Inexpensive [ ]
1. Very important [ ]	2. Important [ ]	3. Unimportant [ ]

Reason for intervention -

1.	To improve building	[ ]
2.	To prevent deterioration	[ ]

.....

1. Very expensive [ ]	2. Expensive [ ]	3. Inexpensive [ ]
1. Very important [ ]	2. Important [ ]	3. Unimportant [ ]

Reason for intervention -

1.	To improve building	[ ]
2.	To prevent deterioration	[ ]

.....

1. Very expensive [ ]	2. Expensive [ ]	3. Inexpensive [ ]
1. Very important [ ]	2. Important [ ]	3. Unimportant [ ]

Reason for intervention -

1.	To improve building	[ ]
2.	To prevent deterioration	[ ]

.....

1. Very expensive [ ]	2. Expensive [ ]	3. Inexpensive [ ]
1. Very important [ ]	2. Important [ ]	3. Unimportant [ ]

Reason for intervention -

1.	To improve building	[ ]
2.	To prevent deterioration	[ ]

# APPENDIX 'A' CONT.

## KISSY HOUSING SURVEY

### SITE OBSERVATION

November 1990

#### DWELLING OBSERVATION

1. Type of dwelling unit :

- ☐ Detached house
- ☐ Semi-detached house
- ☐ Adjoining
- ☐ Flat
- ☐ Temporary

2. No. of floors in which dwelling is located :

- ☐ One floor (Ground floor only)
- ☐ Two floors
- ☐ Three floors
- ☐ Four floors or over

3. Wall construction :

- ☐ 'Sandcrete' blocks with regular plaster
- ☐ Brick wall
- ☐ Laterite blocks / stone
- ☐ Timber / wood
- ☐ Temporary, Pan-body, cardboard etc.
- ☐ Other (specify).....

4. Roof :

- ☐ Corrugated iron sheets
- ☐ Asbestos cement or other
- ☐ Tiles
- ☐ Concrete
- ☐ Other (specify).....

5. Standard of construction :

- ☐ Good
- ☐ Reasonable
- ☐ Poor

6. Current use of dwelling :

- ☐ Living quarters
- ☐ Mixed use

7. Problems that can be observed from inside the dwelling :

- ☐ Peeling paint, loose plaster on walls / ceiling
- ☐ Leakage through walls / ceiling
- ☐ Cracks in walls / ceiling
- ☐ Hazardous wiring
- ☐ Other (specify).....
- .....
- .....

8. Problems that can be observed from outside the dwelling:
- ☐ Peeling paint, loose plaster on walls / ceiling
- ☐ Water leakage
- ☐ Cracks in walls
- ☐ Other (specify).....
- .....
9. How well kept is the dwelling from inside :
- ☐ Very well
- ☐ Fairly well
- ☐ Poorly, needs minor repairs
- ☐ Very poorly, needs major repairs
- ☐ Not known
10. How well kept is the dwelling from outside :
- ☐ Very well
- ☐ Fairly well
- ☐ poorly, needs minor repairs
- ☐ Very poorly, needs major repairs
- ☐ Not known
11. Compared to the physical condition of the surrounding dwellings, the respondent's dwelling is :
- ☐ Better
- ☐ Worse
- ☐ Same
12. Access to and from neighbours :
- ☐ One access route
- ☐ More than one access route
13. Ease of movement within respondent's dwelling:
- ☐ Easy movement
- ☐ Movement, slightly difficult
- ☐ Movement, difficult
- ☐ Movement, very difficult
14. Ease of movement in and out of the respondent's dwelling during the time of the survey
- ☐ Front door always opened
- ☐ Front door always closed
- ☐ Back door always opened
- ☐ Back door always closed
15. Enclosure of respondent's compound :
- ☐ Compound totally enclosed
- ☐ Compound partially enclosed
- ☐ Compound not at all enclosed
16. Characteristics of respondent's dwelling
- ☐ Overlooking into yards and balconies by neighbours
- ☐ Overlooking through windows by neighbours
- ☐ Private garage
- ☐ Parking in compound
17. Evaluate yards surrounding respondent's dwelling
- ☐ Very well kept
- ☐ Well kept
- ☐ Poorly kept, needs minor maintenance
- ☐ Very poorly kept, needs major maintenance

18. Which of the following amenities are present in the respondent's home

- ☐ Internal bath
- ☐ External bath
- ☐ Internal kitchen
- ☐ External kitchen
- ☐ Garage
- ☐ Back yard
- ☐ Front yard
- ☐ Electricity supply
- ☐ Outdoor water stand pipe
- ☐ Well water supply

19. SKETCH THE PLAN OF R's DWELLING UNIT

# IMMEDIATE NEIGHBOURHOOD OBSERVATION

1. Access to respondent's dwelling
  - ☐ Direct from municipal street
  - ☐ By going pass a house on the street
  - ☐ By going along a foot path from a municipal street
  - ☐ Other (specify).....
2. Land use
  - ☐ All residential
  - ☐ Predominantly residential
  - ☐ About half residential
  - ☐ Little residential.
3. Building profile (most dominant) :
  - ☐ Low - rise (three stories or less )
  - ☐ High rise (four stories or more)
4. Residents' parking
  - ☐ Parking in mostly private garages
  - ☐ Parking on one side of the street
  - ☐ Parking on both sides of the street
  - ☐ Parking in vacant lots
  - ☐ Other (specify).....
5. Side walk between respondent's dwelling and street :
  - ☐ Exist
  - ☐ Does not exist

6. Age and characteristics of neighbourhood :
- |                          |              |
|--------------------------|--------------|
| <input type="checkbox"/> | Old          |
| <input type="checkbox"/> | Transitional |
| <input type="checkbox"/> | New          |

7. Evaluate the presence of the following :			
	Definitely present	Present to some extent	Not at all present
1. Street in poor condition	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Side walks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Street lightings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Buildings in run down conditions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Trash , litter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Street noise	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Heavy traffic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Uncontrolled surface water drain	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## **APPENDIX 'B'**

### **Frequency Distribution for Intervention Activities**



# APPENDIX 'B'

## Household intervention - Improvements

Intervention	Description	Total f	sample %age	PO f	%age	PR f	%age	PH f	%age
HI1	Adding room/s as extensions	6	6.4	4	19.1	2	4.2	-	-
HI2	Adding an internal toilet	5	5.3	3	14.3	2	4.2	-	-
HI3	Adding an internal kitchen	4	4.2	3	14.3	1	2.1	-	-
HI4	Constructing an outdoor toilet	14	14.9	6	28.6	8	16.7	-	-
HI5	Constructing an outdoor kitchen	11	11.8	7	33.3	4	8.3	-	-
HI6	Converting a space to another use	8	8.5	5	28.8	3	6.3	-	-
HI7	Constructing a fence/gate	19	20.3	7	33.3	5	10.4	7	28
HI8	Installing a new ceiling	9	9.7	7	33.3	1	2.1	1	4
HI9	Adding a porch/canopy	1	1.1	1	4.8	-	-	-	-
HI10	Providing hedges/lawn/garden	30	32	2	9.5	7	14.6	21	84
HI11	Providing an outdoor water pipe	9	9.7	8	38.1	1	2.1	-	-
HI12	Electrical wiring/fitings	28	29.8	6	28.6	11	22.9	11	44
HI13	Providing electric meter	18	19.2	6	28.6	9	18.8	3	12
HI14	Painting internally	57	60.7	14	66.7	22	45.8	21	84
HI15	Painting externally	39	41.5	12	57.1	13	27.1	14	56
HI16	Constructing a well	1	1.1	1	4.8	-	-	-	-
HI17	Providing handrail/dummy wall	9	9.7	4	19.1	2	4.2	3	12
HI18	Constructing drive/paving outdoor areas	27	28.7	7	33.3	5	10.4	15	60
HI19	Constructing surface water drains	19	20.2	8	38.1	9	18.8	2	8
HI20	Providing fixed furniture	41	43.7	11	52.4	24	50	6	24
HI21	Providing arts and craft	50	53.2	8	38.1	27	56.3	15	60
HI22	Providing carpets/rugs/floor linings	57	60.7	19	90.5	31	64.6	7	28
HI23	Installing water tank	5	5.3	3	14.3	2	4.2	-	-
HI24	Installing new doors/windows	16	17.1	5	28.8	6	12.5	5	20

APPENDIX 'B' CONT.

Household intervention - Improvements

Intervention	Description	Total		sample		PO		PR		PH	
		f	%age	f	%age	f	%age	f	%age	f	%age
HI25	Reinforcing doors/windows	50	53.3	8	38.1	20	41.7	15	88		
HI26	Repositioning doors/windows	10	10.7	4	19.1	5	10.4	1	4		
HI27	Internal plumbing installations	4	4.3	3	14.3	1	2.1	-	-		
HI28	Tiling walls/floors	19	20.3	3	14.3	2	4.2	14	56		
HI29	Installing household equipment	37	39.3	6	28.6	8	16.7	23	92		
HI30	Constructing new stairs/steps	1	1.1	-	-	1	2.1	-	-		
HI31	Providing covered walk	5	5.3	3	14.3	2	4.2	-	-		
HI32	Adding garage/shed/retail kiosk	9	9.7	5	23.3	1	2.1	3	12		
HI33	Knocking down existing walls	3	3.3	3	14.3	-	-	-	-		
HI34	Constructing new walls (partitions)	4	4.3	2	9.5	-	-	2	8		
HI35	Fixing window/door curtains	68	72.3	15	71.4	38	79.2	15	60		
HI36	Internal furnishings	87	92.6	21	100	43	89.6	23	92		
HI37	Telephone installation	7	7.5	4	19.1	3	6.3	-	-		
HI38	Screeding floors	16	16.9	6	28.6	10	20.8	-	-		
HI39	Providing mosquito netting to windows	4	4.3	2	9.5	1	2.1	1	4		
HI40	Installing roof gutters	13	13.8	4	19.1	9	18.8	-	-		
HI41	Plastering internal walls	4	4.3	2	9.5	2	4.2	-	-		
HI42	Plastering external walls	3	3.3	3	14.3	-	-	-	-		

# APPENDIX 'B' CONT.

## Household intervention - Maintenance

Intervention	Description	Total f	sample %age	PO f	PO %age	PR f	PR %age	PH f	PH %age
H143	Repainting internally	46	48.6	14	66.7	19	39.6	13	52
H144	Repainting externally	18	19.2	3	14.3	5	10.4	10	40
H145	Replastering/repairing internal walls	2	2.2	1	4.8	1	2.1	-	-
H146	Replastering/repairing external walls	5	5.3	2	9.5	3	6.3	-	-
H147	Repairing ceiling	24	25.5	7	33.3	15	31.3	2	8
H148	Repairing roof	20	21.4	10	47.6	14	29.2	6	24
H149	Repairing doors/windows	46	49.3	12	57.1	24	50	10	40
H150	Reupholstering furniture	15	16	5	23.8	10	20.8	-	-
H151	Repairing floors	15	16	6	28.6	5	10.4	4	16
H152	Replace/repair electrical wiring/fittings	19	20.3	2	9.5	7	14.6	10	40
H153	Plumbing repairs	20	21.4	3	14.3	9	18.8	8	32
H154	Repairing fixed furniture	4	4.3	2	9.5	2	4.2	-	-
H155	Residing the house	4	4.3	4	19.1	-	-	-	-
H156	Repair of wall/floor tiles	2	2.2	2	9.5	-	-	-	-
H157	Repairing fence/gate	4	4.3	3	14.3	1	2.1	-	-
H158	Emptying septic tank/cess pits	36	38.2	15	71.4	19	39.6	2	8
H159	Repairing drive/paved areas	2	2.2	-	-	2	4.2	-	-
H160	Repairing surface water drains	5	5.4	3	14.3	2	4.2	-	-
H161	External toilet repairs	25	26.6	8	38.1	9	18.8	8	32
H162	External kitchen repairs	14	14.9	11	52.4	3	6.3	-	-

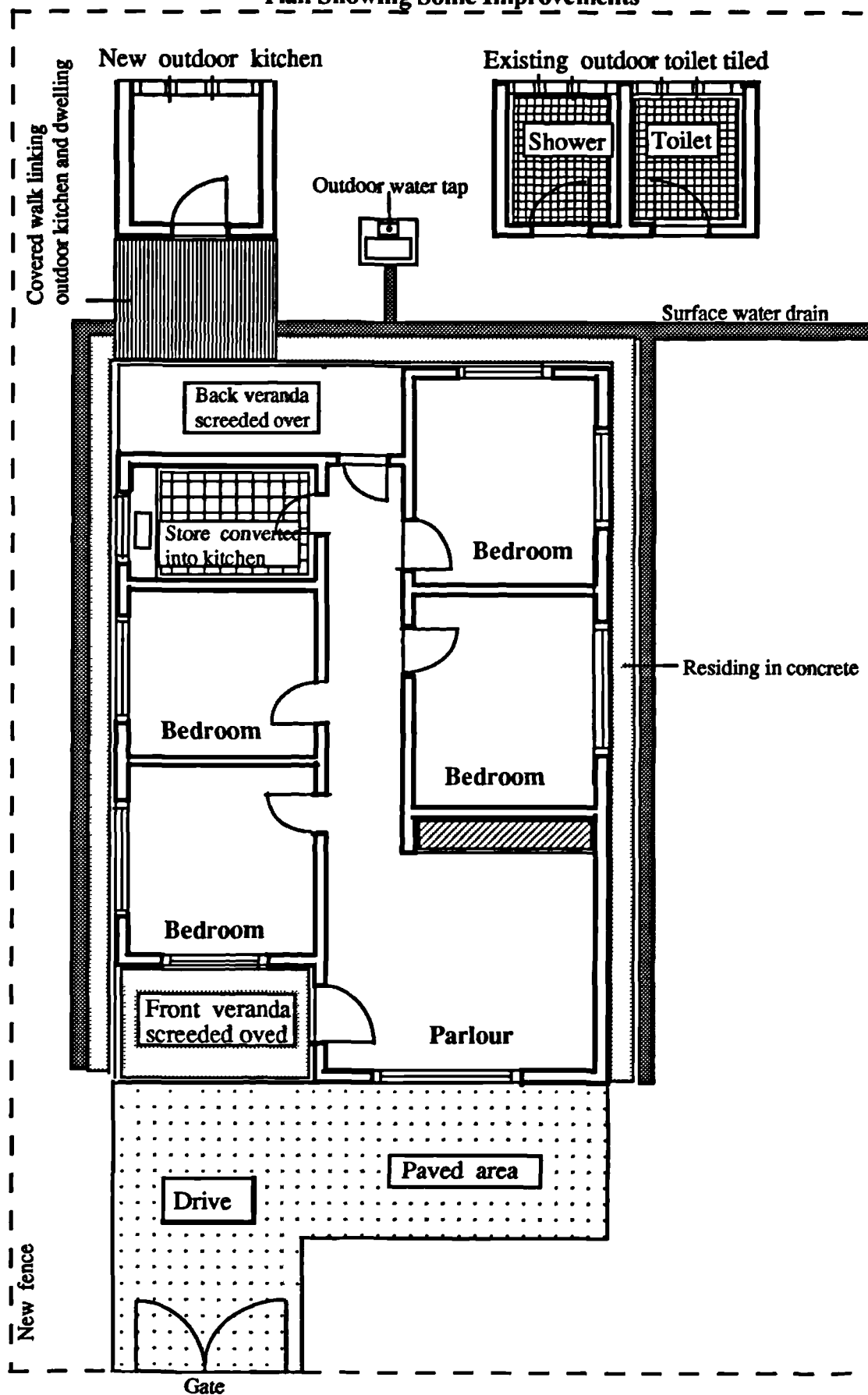
## **APPENDIX 'C'**

### **Plans of Dwellings Surveyed**

## APPENDIX 'C' DWELLING PLANS

## DWELLING PO01 - DETACHED

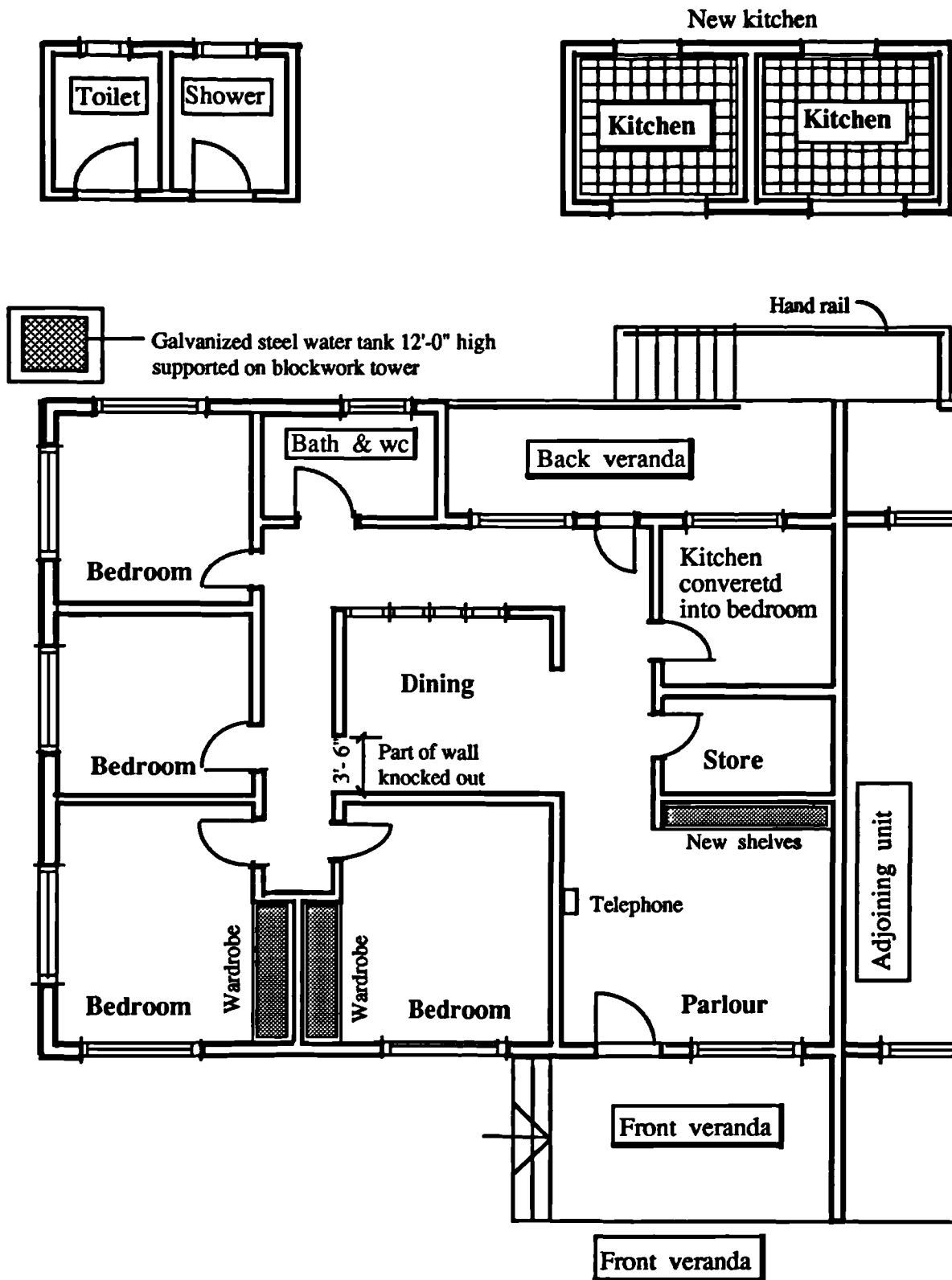
## Plan Showing Some Improvements



## APPENDIX 'C' CONT.

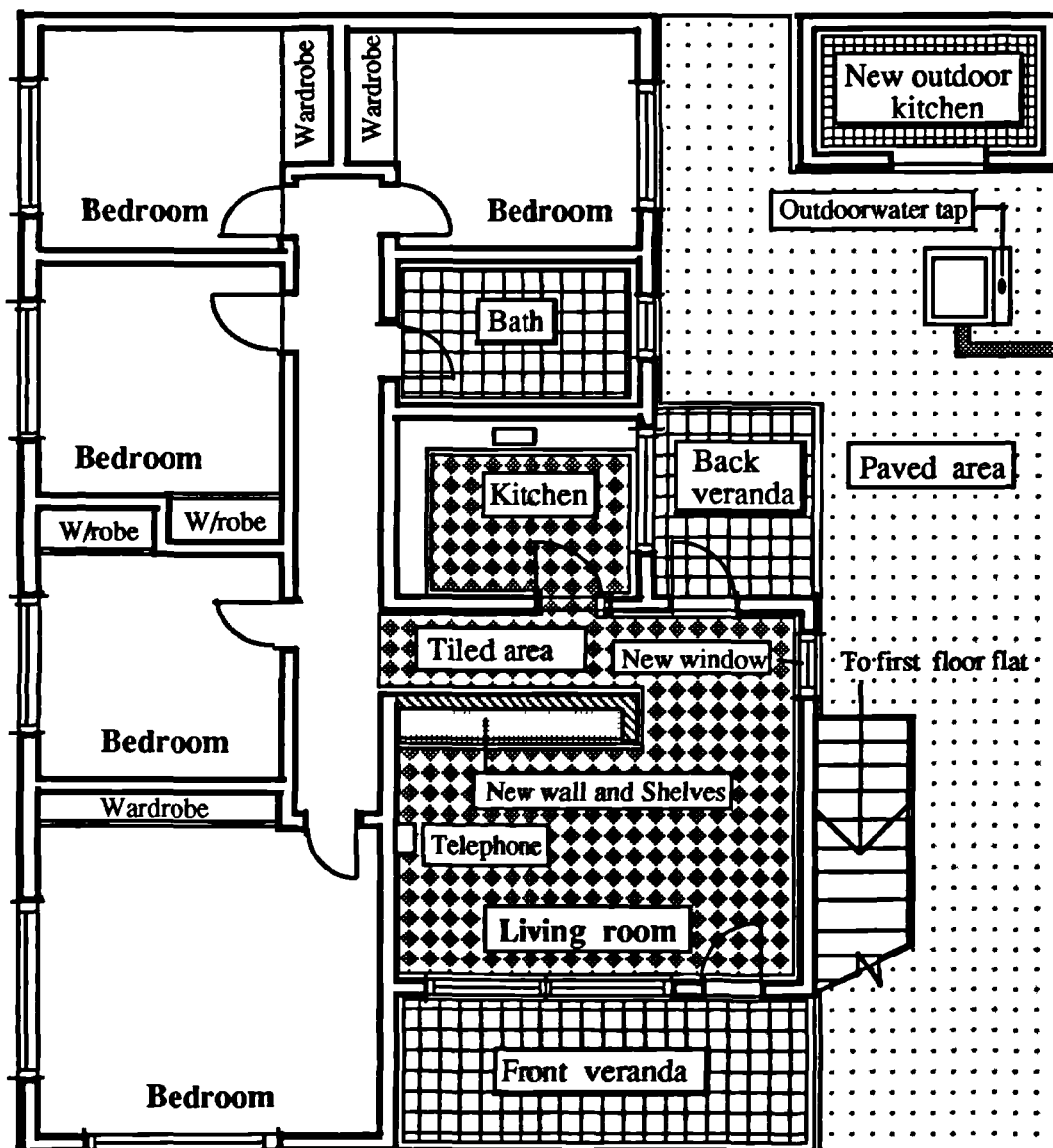
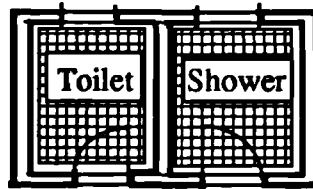
## DWELLING PO02 - SEMI-DETACHED

## Plan showing improvements



## APPENDIX 'C' CONT.

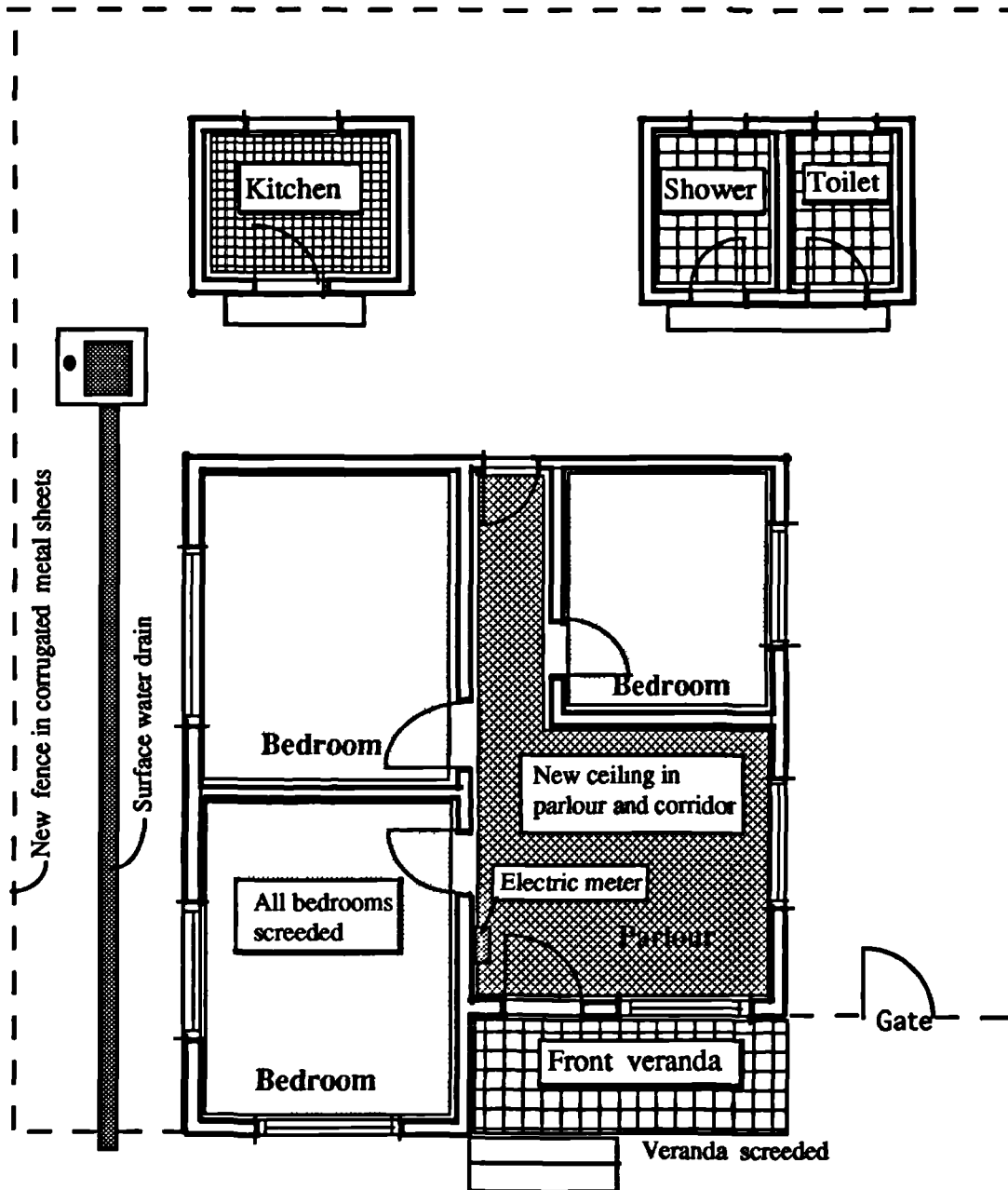
## DWELLING PO03 - FLAT

Plan of ground floor flat showing improvements

## APPENDIX 'C' CONT.

## DWELLING PO04

## Plan showing some improvements

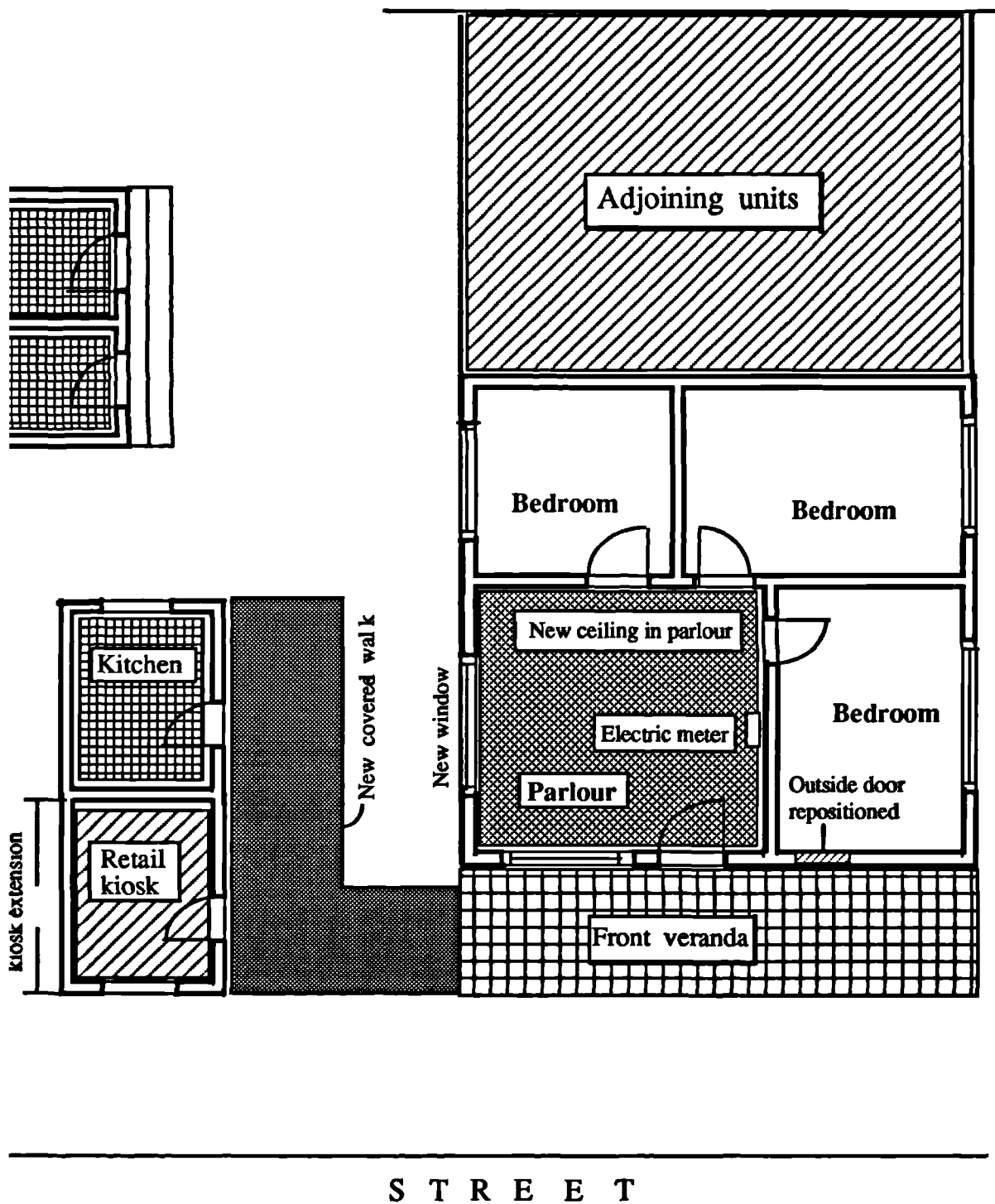




## APPENDIX 'C'

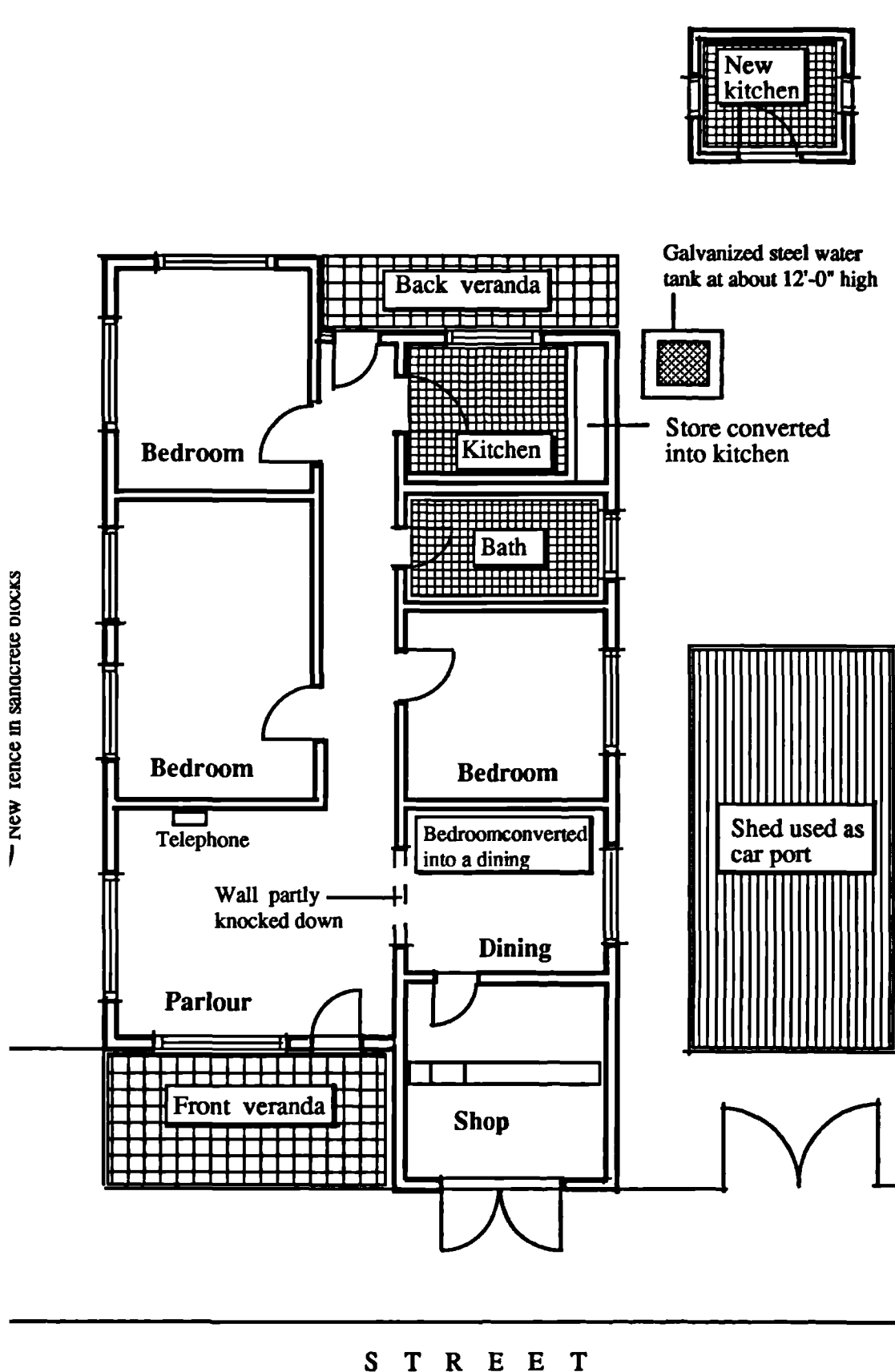
## DWELLING PO05 - ADJOINING

## Plan showing improvements



## DWELLING PO06

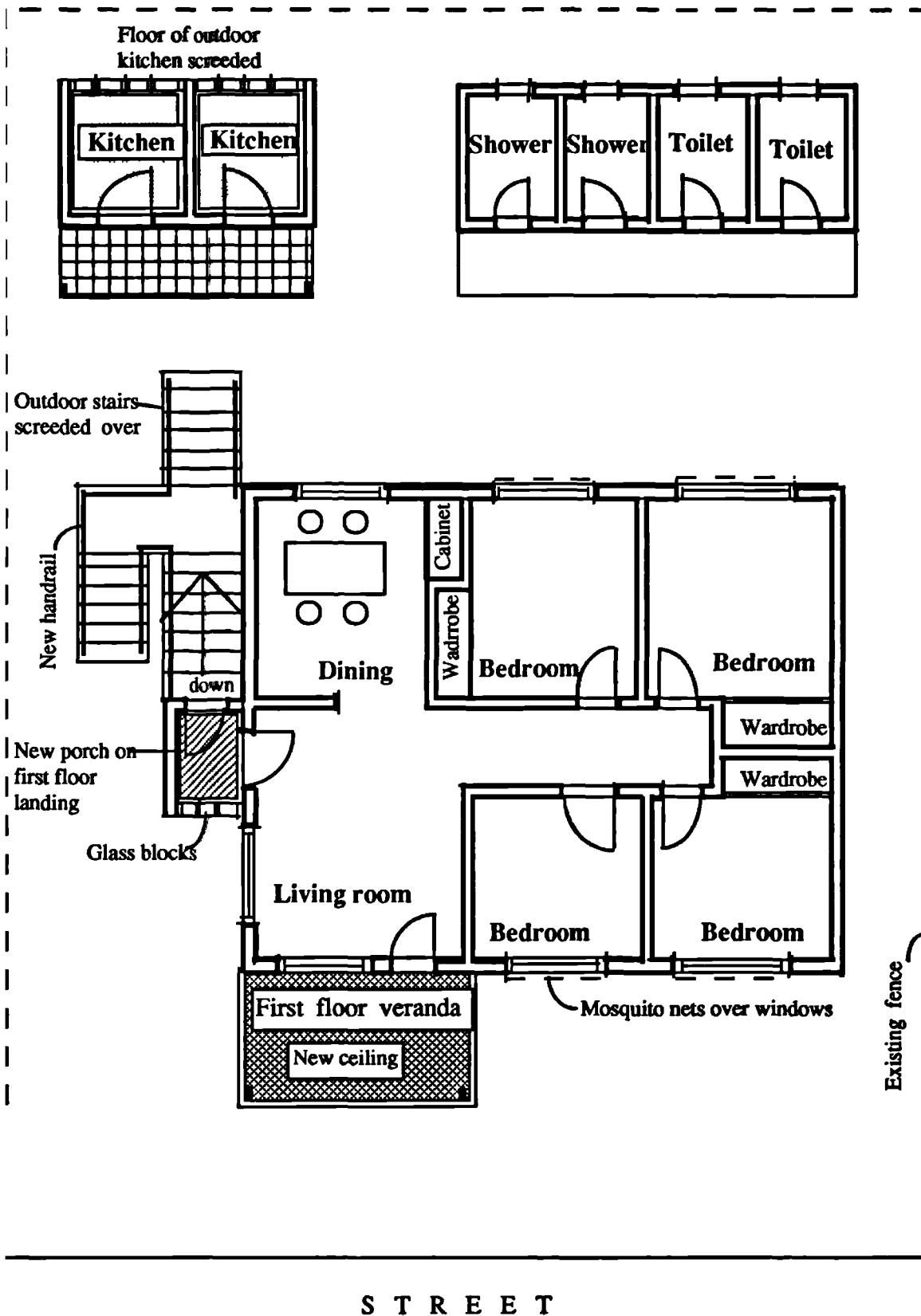
Plan showing improvements



## APPENDIX 'C'

## DWELLING PO07

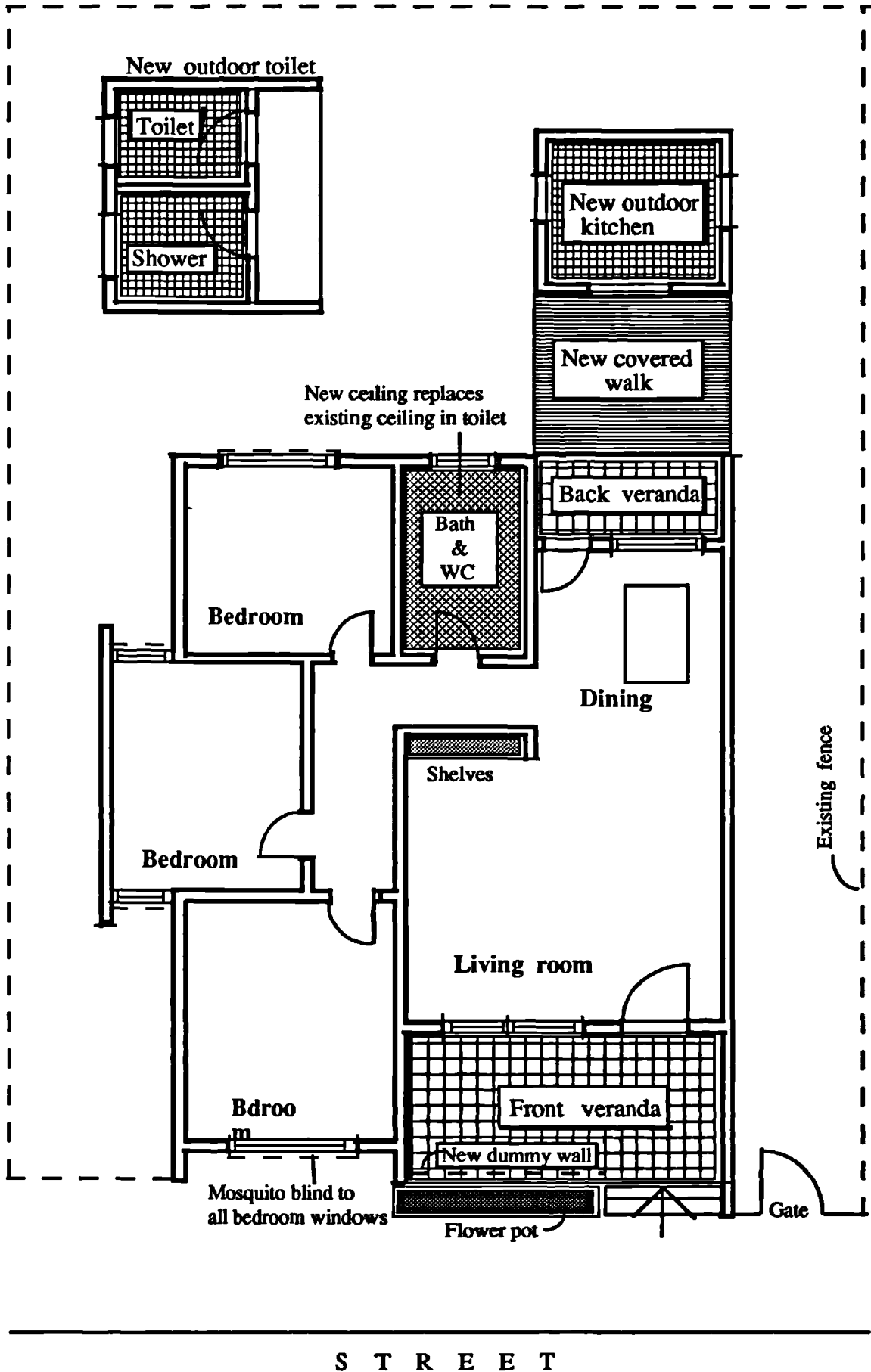
## First floor Plan showing improvements



## APPENDIX 'C' CONT.

## DWELLING PO08

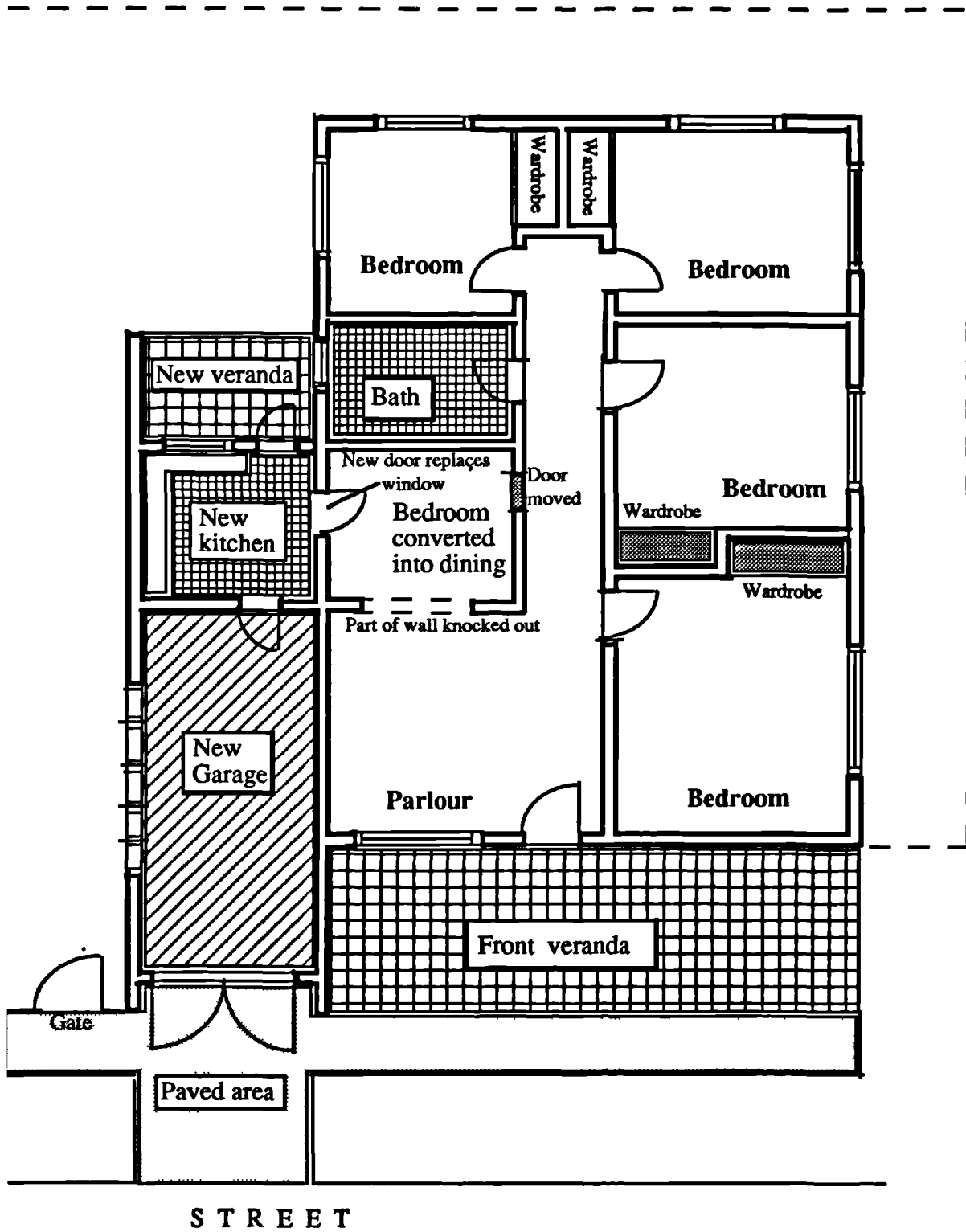
## Plan showing some improvements



## APPENDIX 'C'

## DWELLING PO09

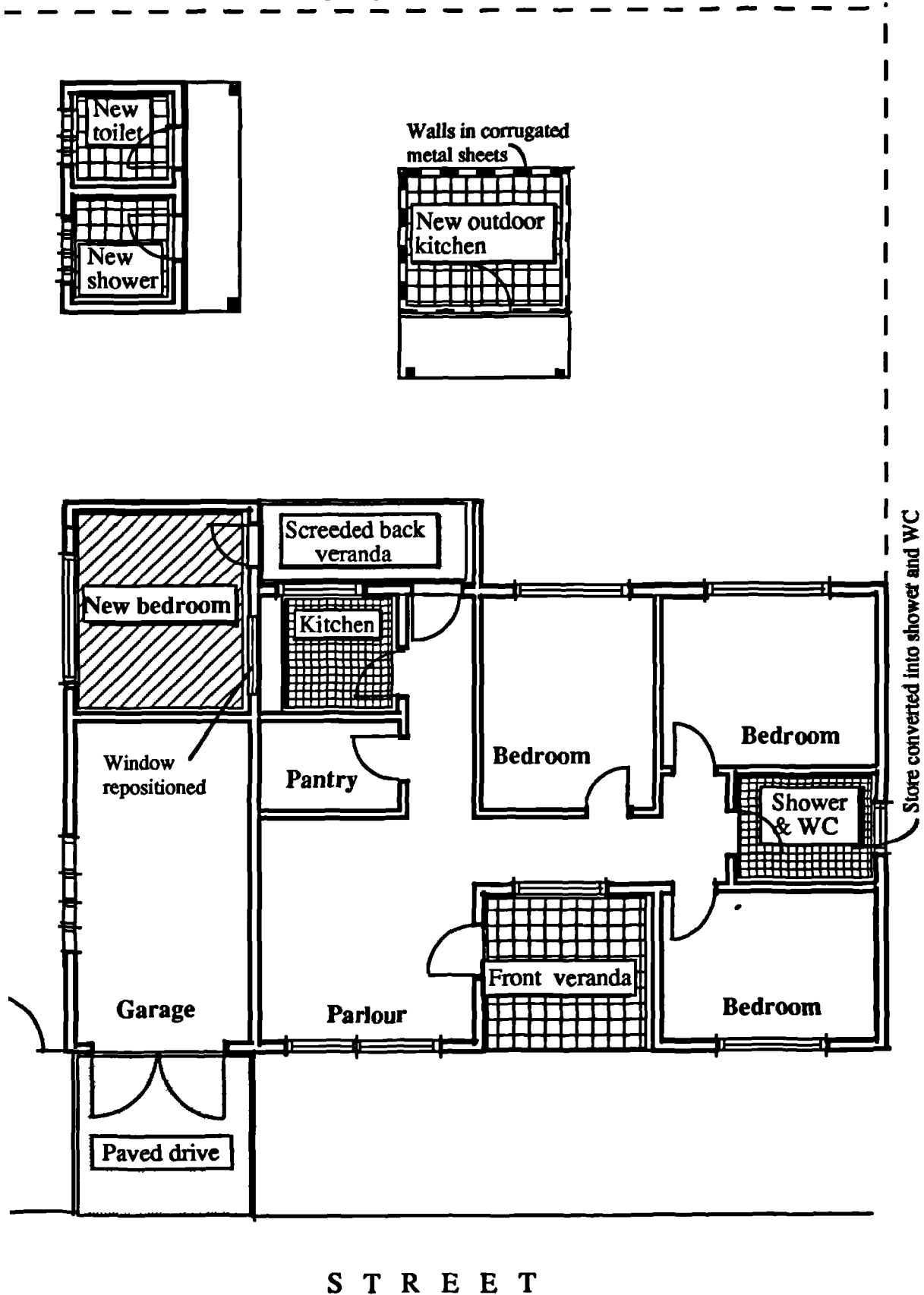
## Plan showing improvements



## APPENDIX 'C'

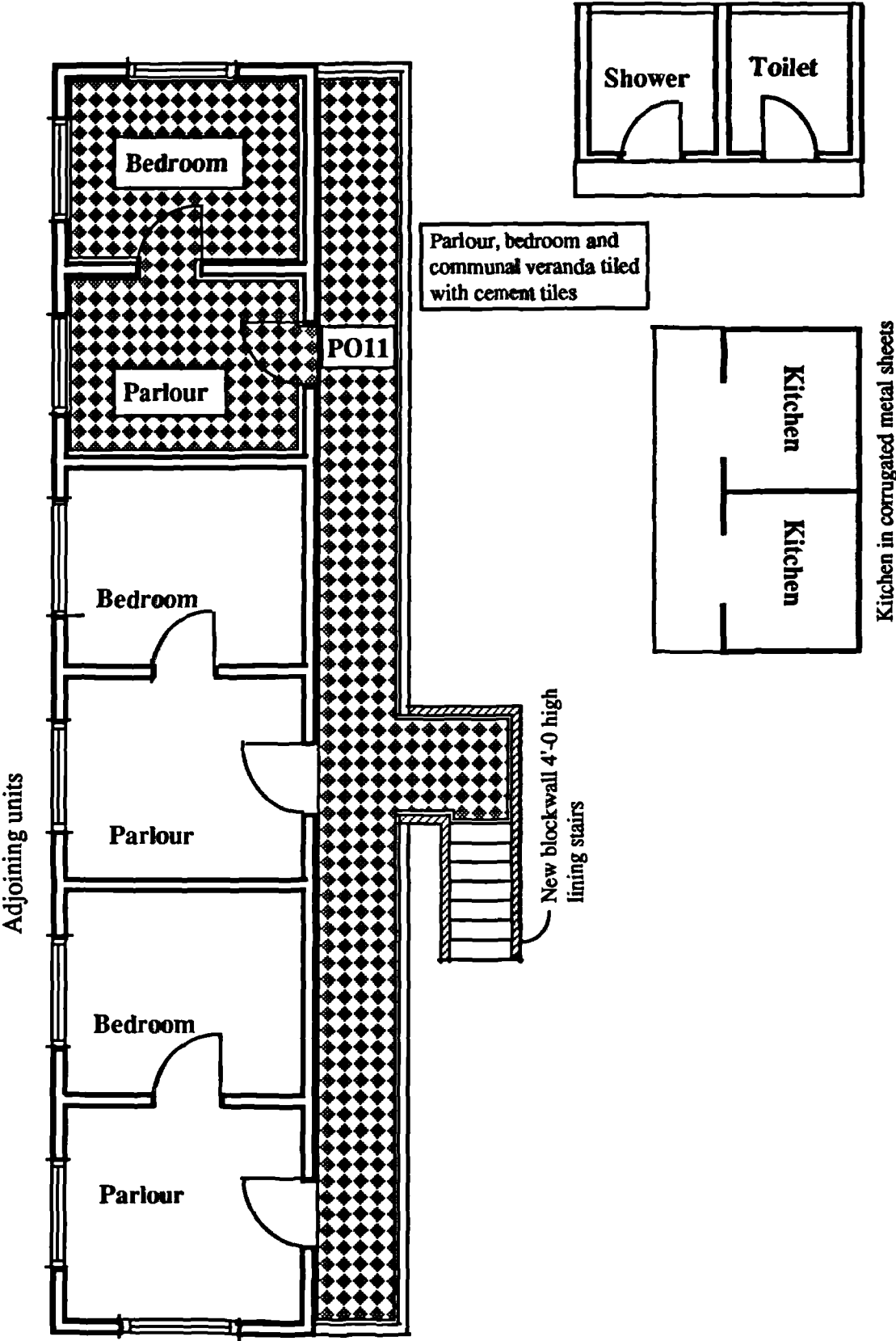
## DWELLING PO10

## Plan showing improvements



APPENDIX 'C' CONT.

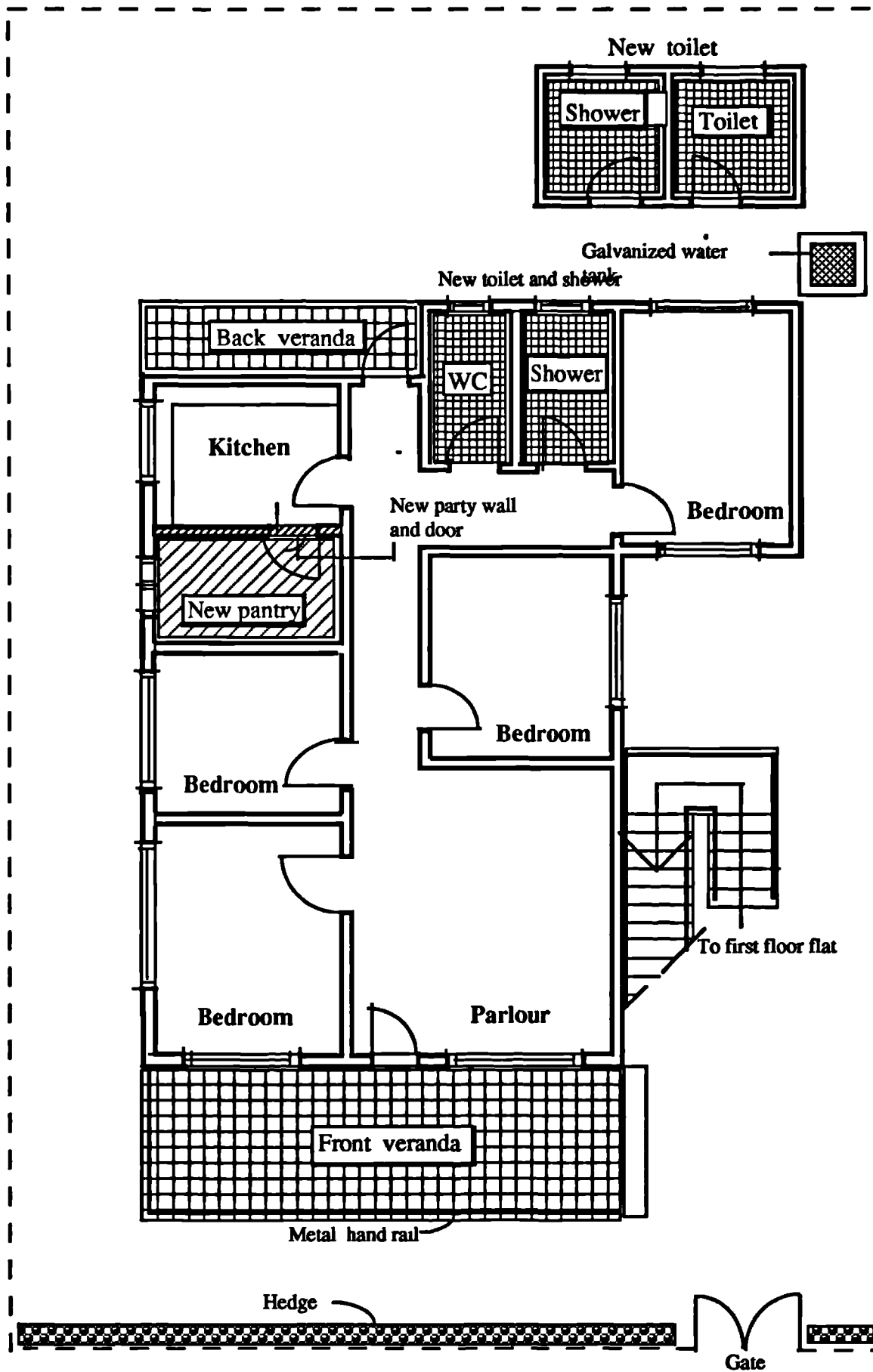
DWELLING PO11



## APPENDIX 'C'

## DWELLING PO12

## Ground floor plan showing improvements

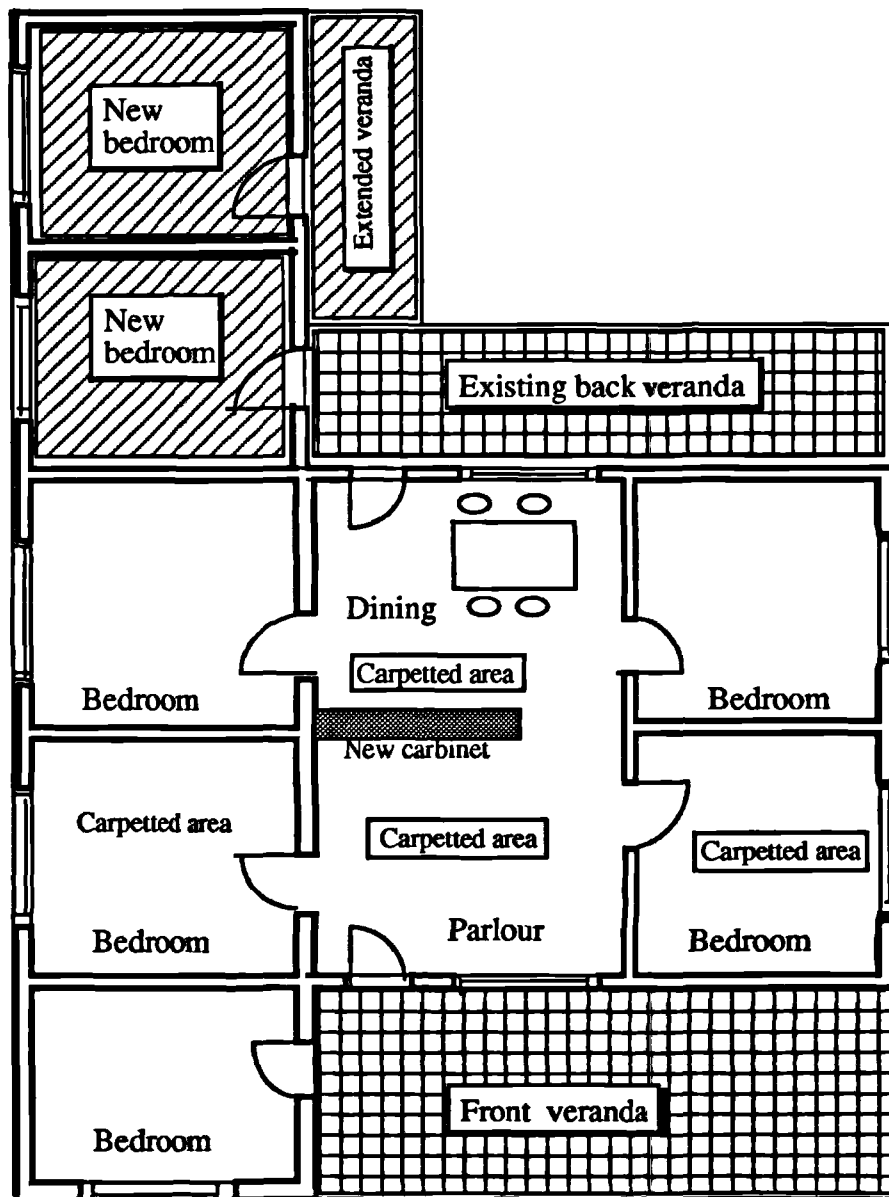
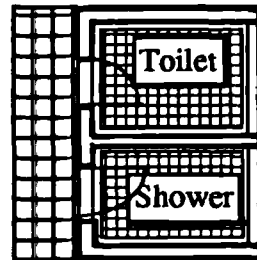
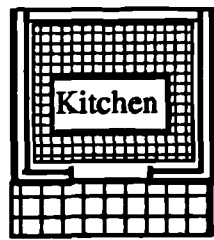




APPENDIX 'C'

DWELLING PO13

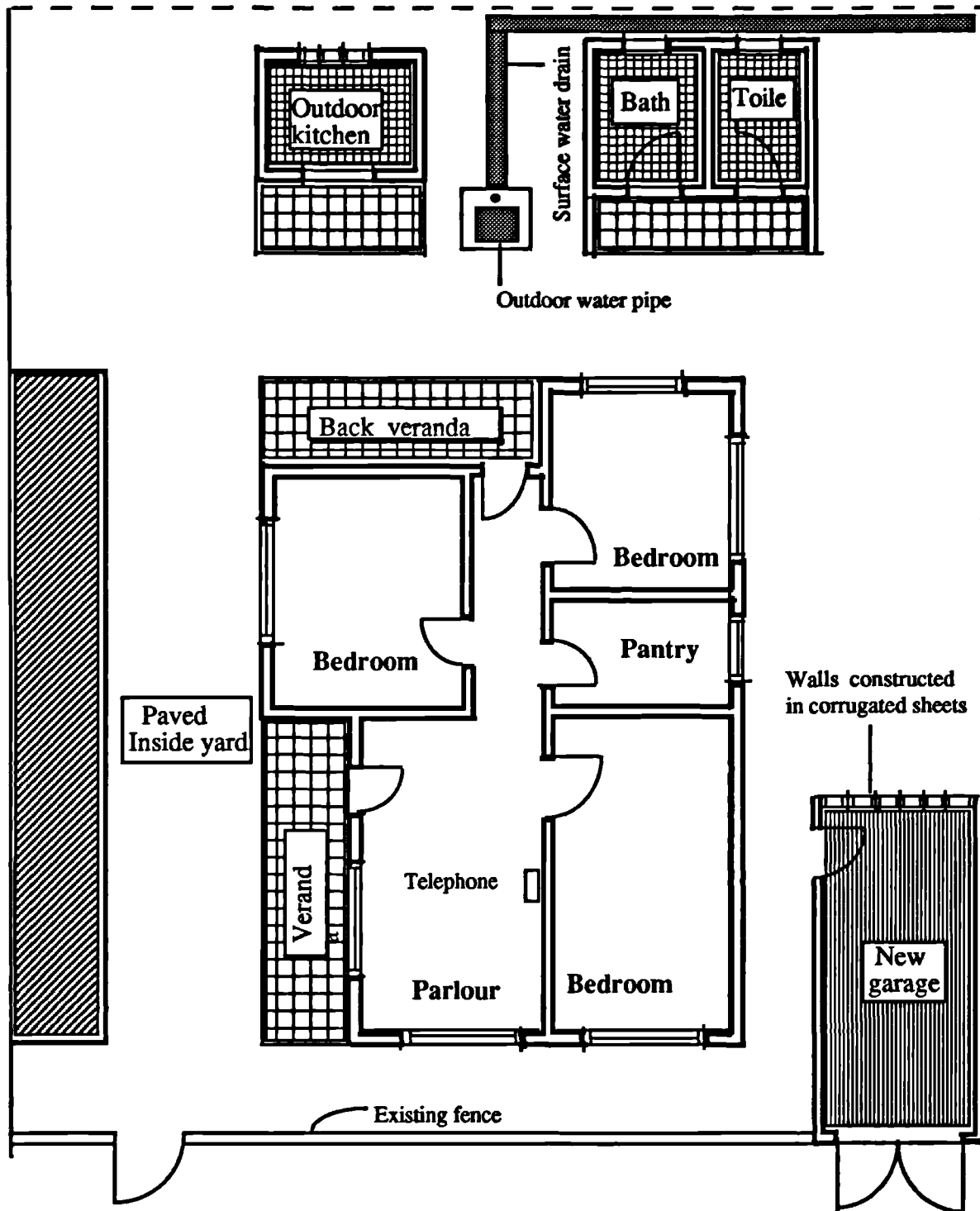
Plan showing improvements



## APPENDIX 'C' CONT.

## DWELLING PO14

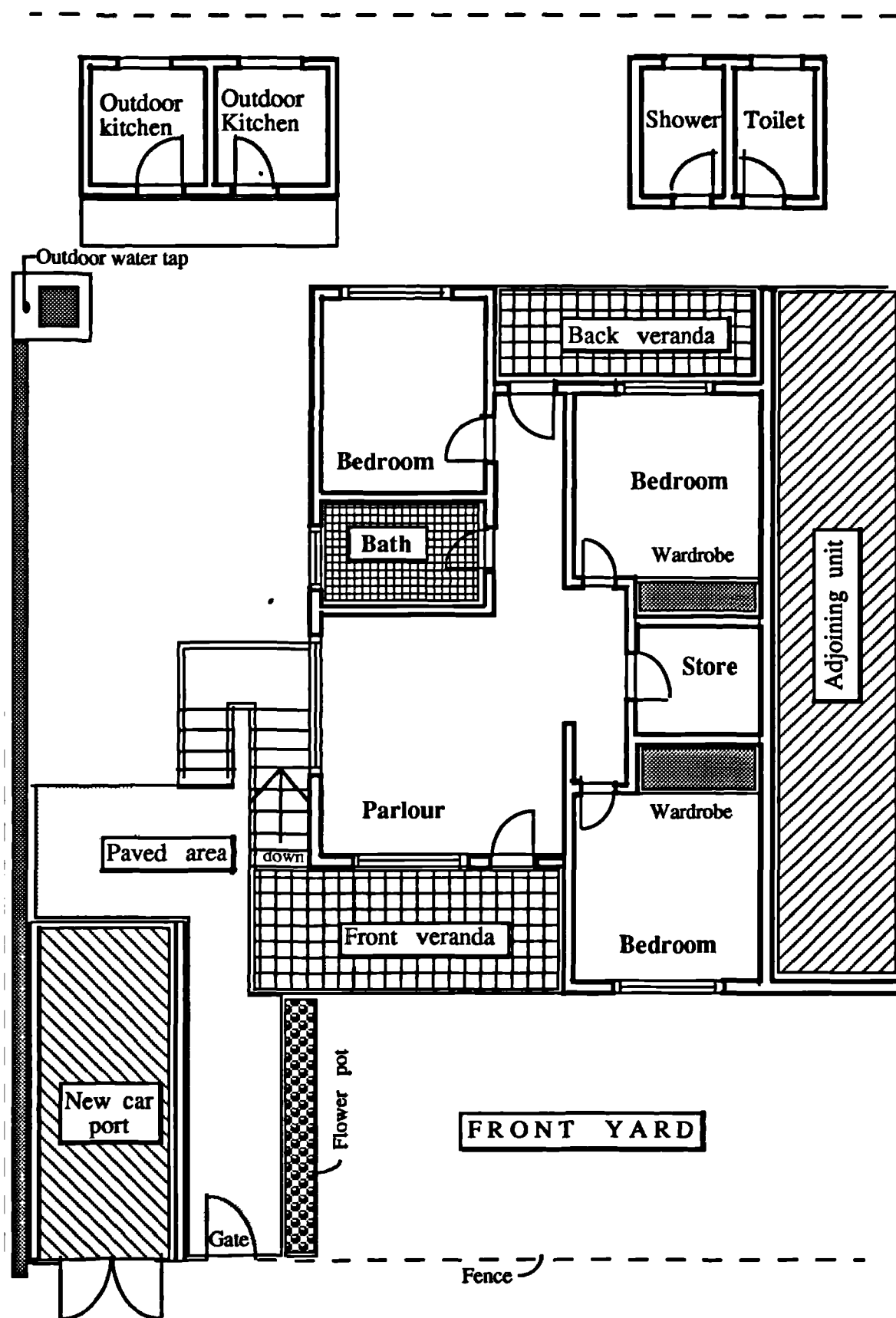
## Plan showing some improvements



## APPENDIX 'C'

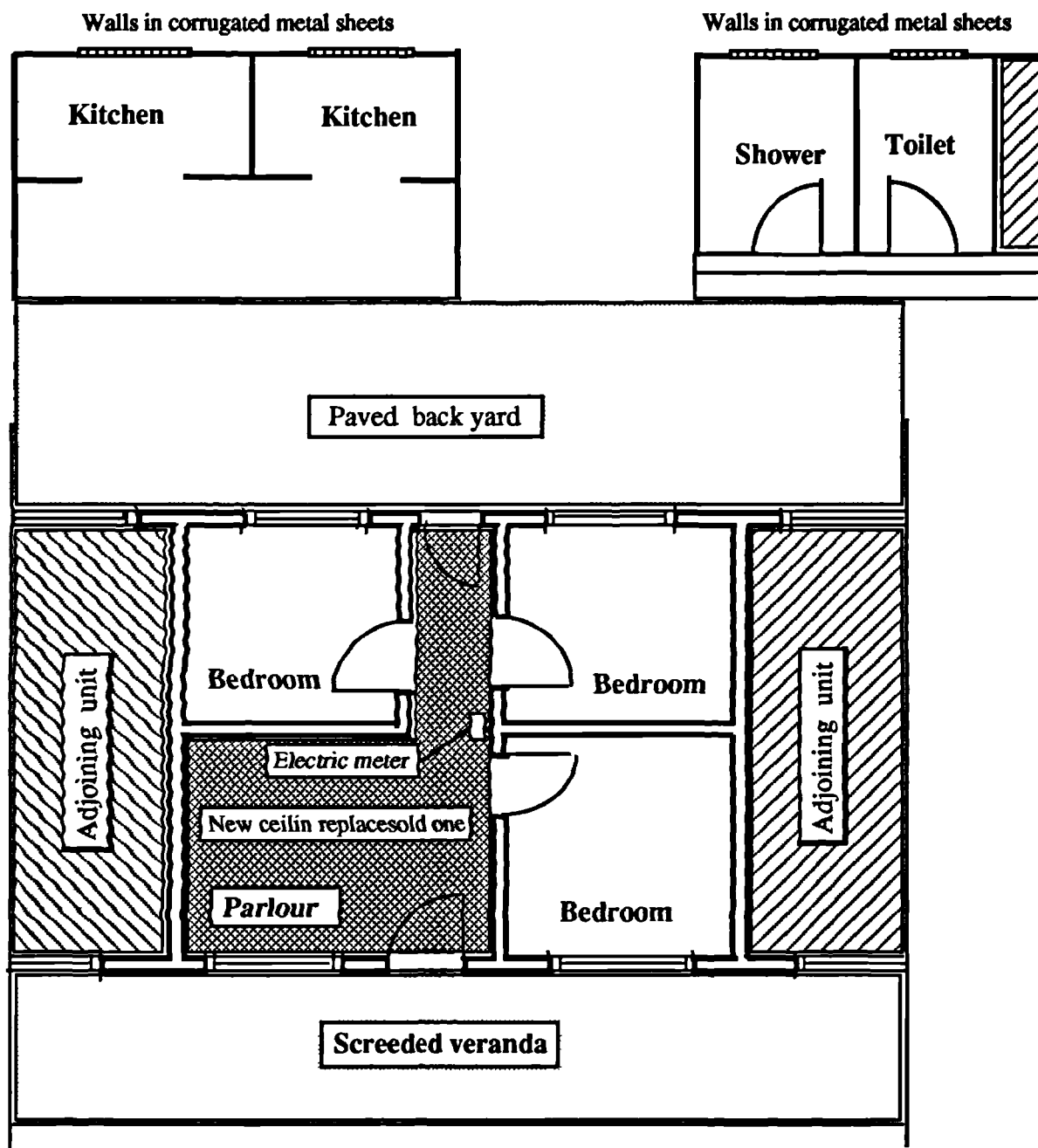
## DWELLING PO15

## First floor plan showing improvements



## APPENDIX 'C' CONT.

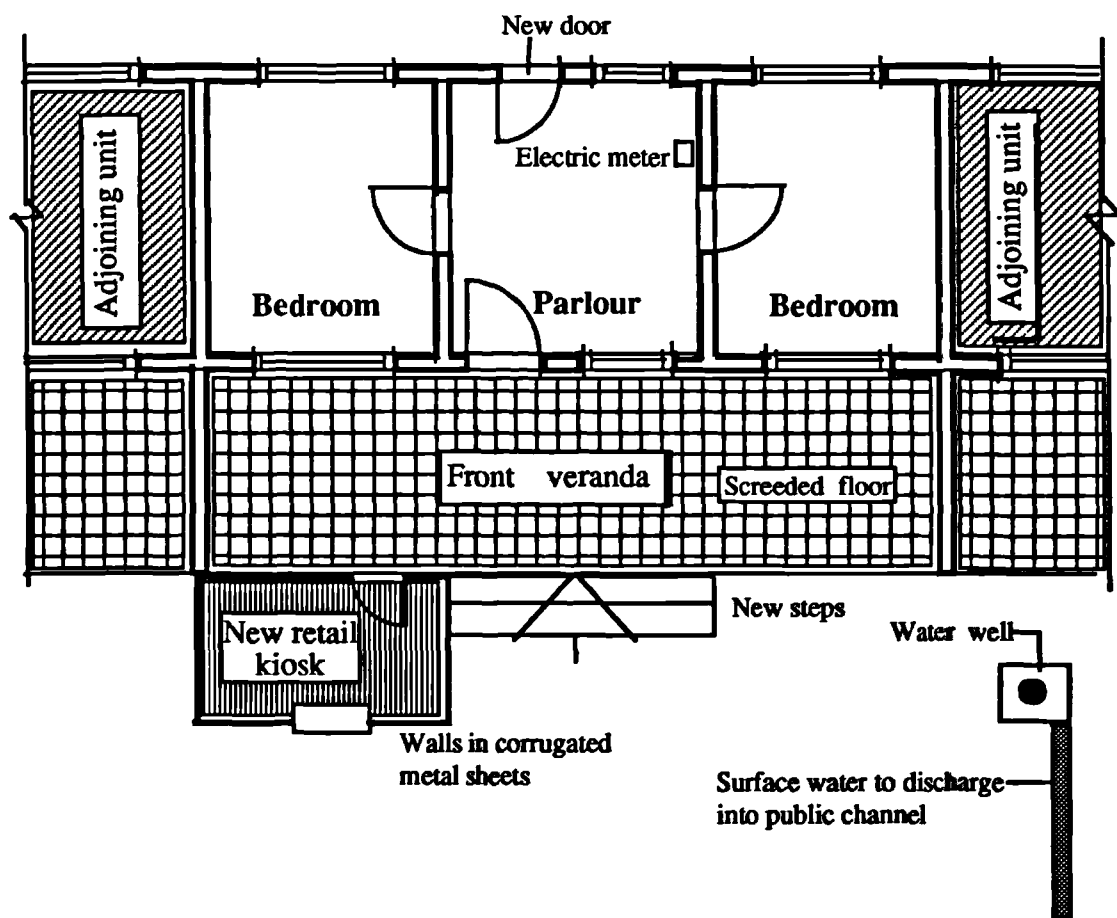
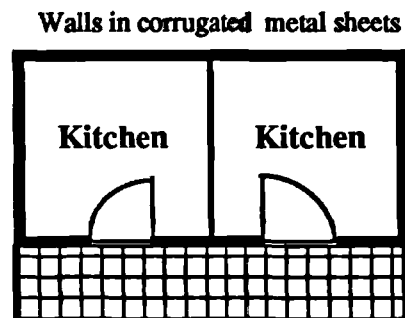
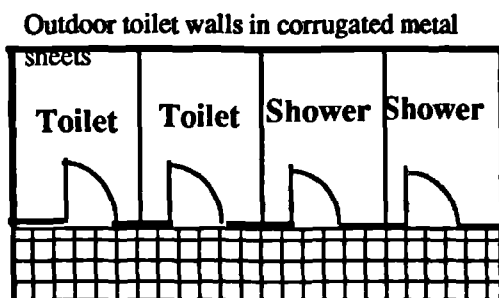
## DWELLING PO16



APPENDIX 'C' CONT.

DWELLING P017 ADJOINING

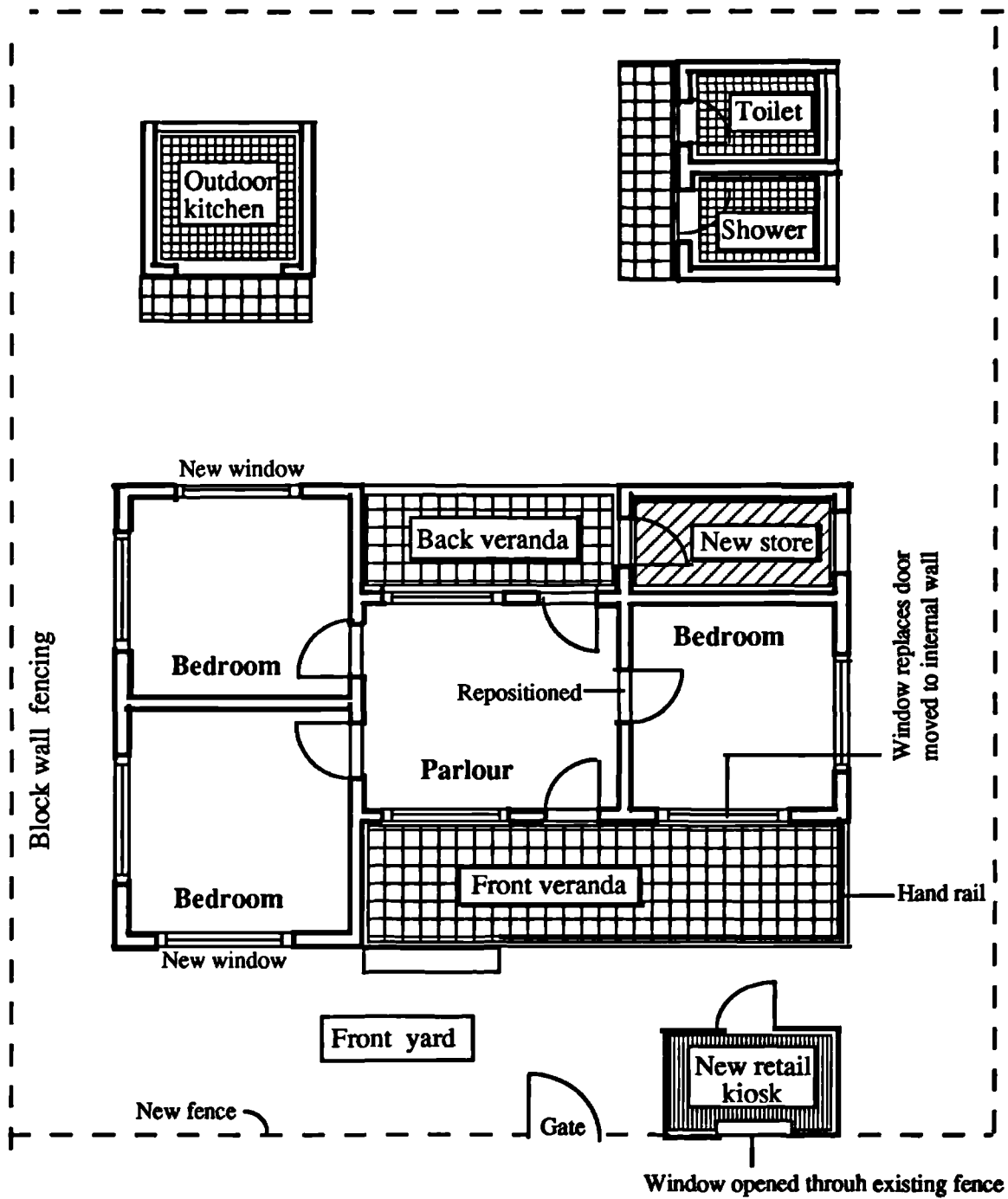
Plan showing some improvements



## APPENDIX 'C'

## DWELLING PO18

## Plan showing improvements

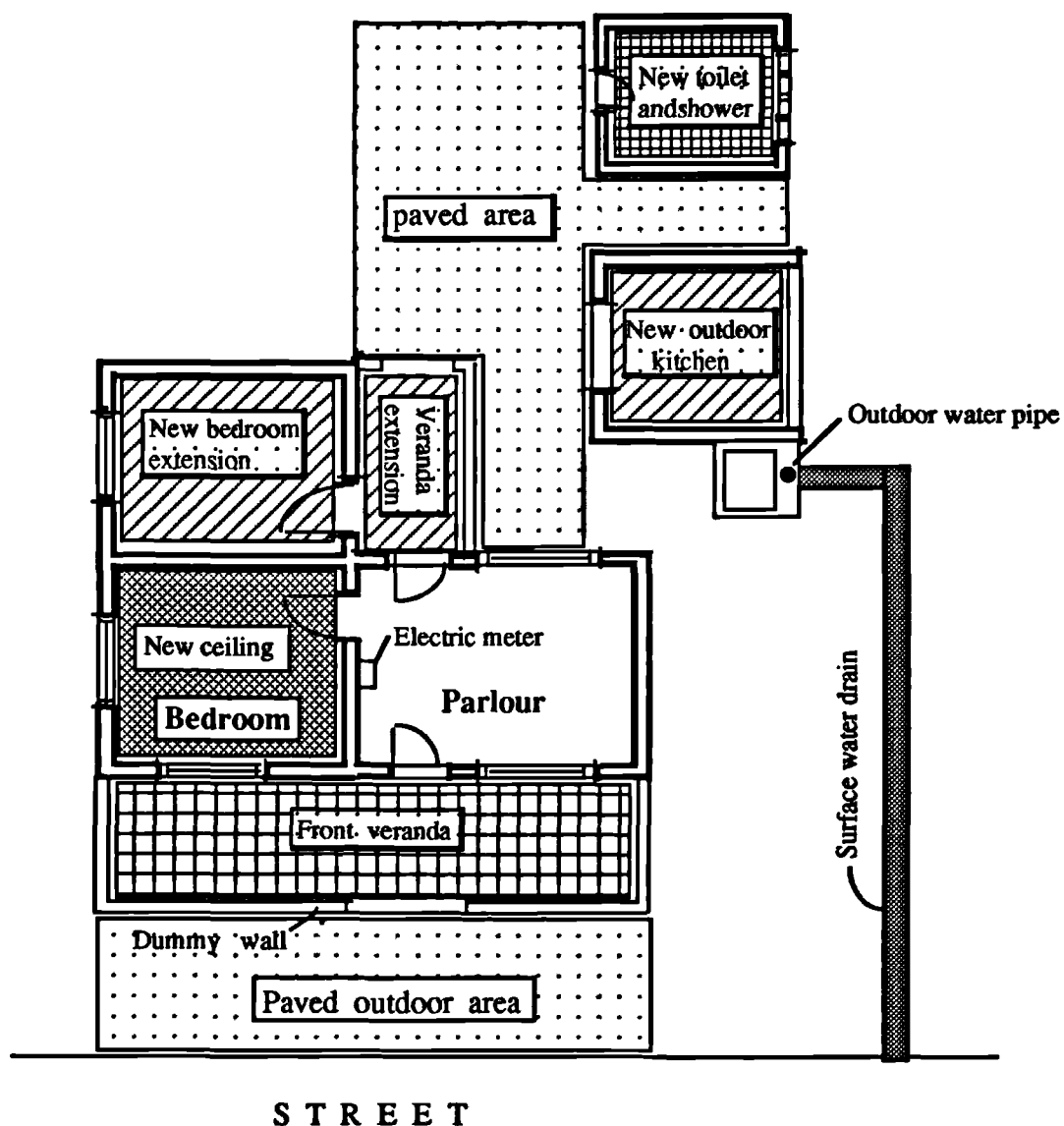


S T R E E T

## APPENDIX 'C' CONT.

## DWELLING - PO19

## Plan showing improvements

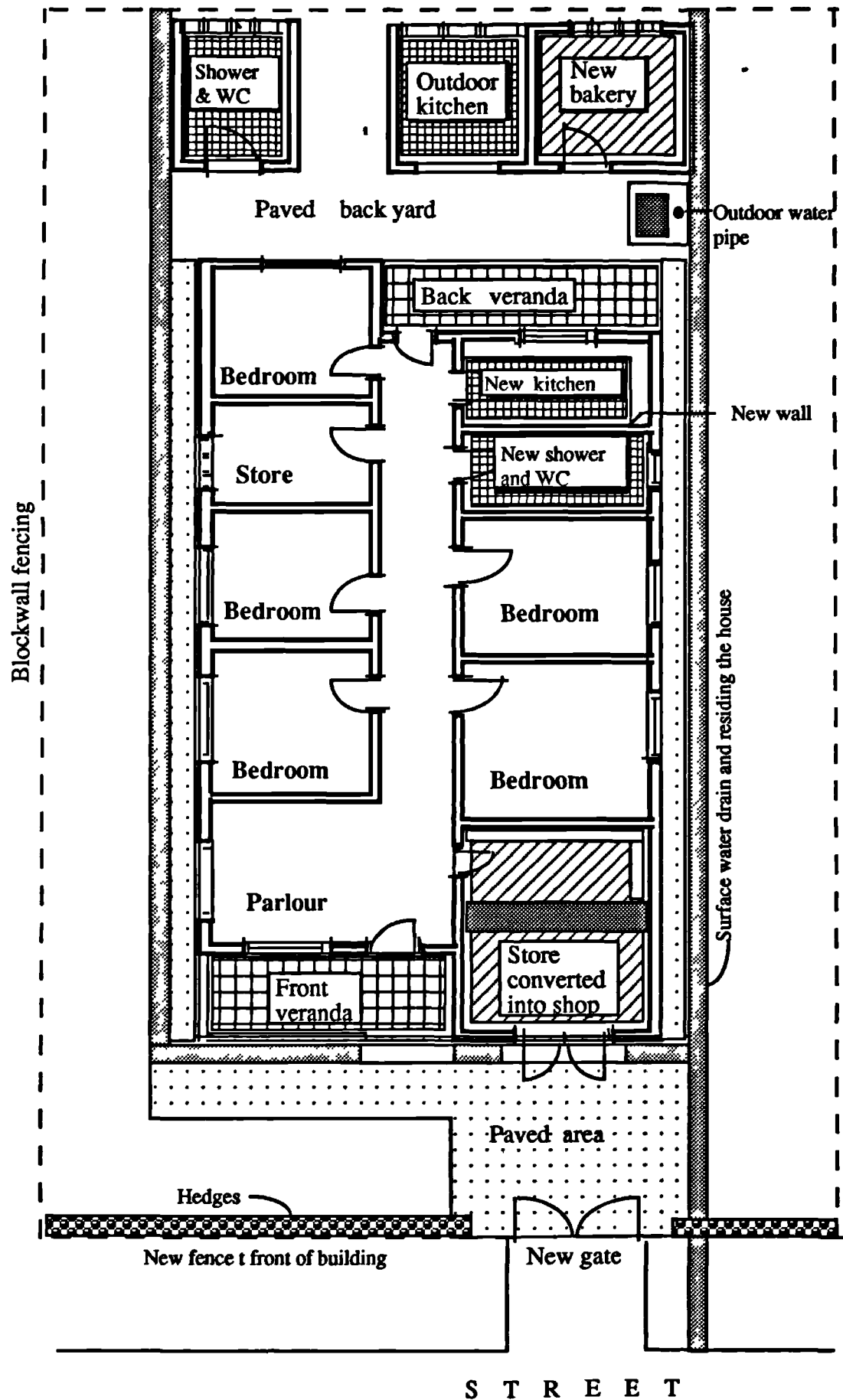


Walls constructed in corrugated metal sheets and lined internally with cardboard, with timber windows

## APPENDIX 'C' CONT.

## DWELLING - PO20

## Plan showing improvements

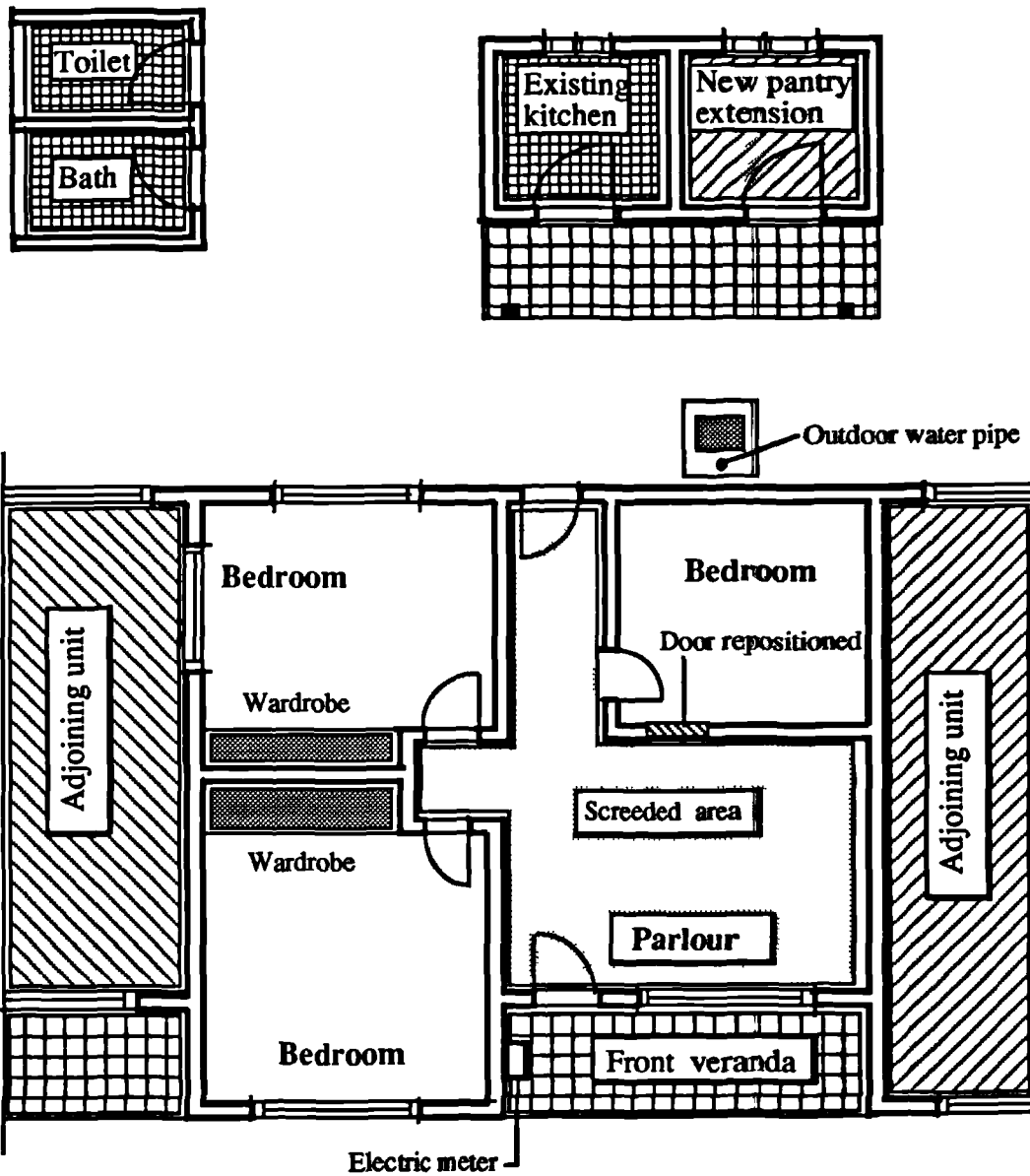




## APPENDIX 'C' CONT.

## DWELLING PO21

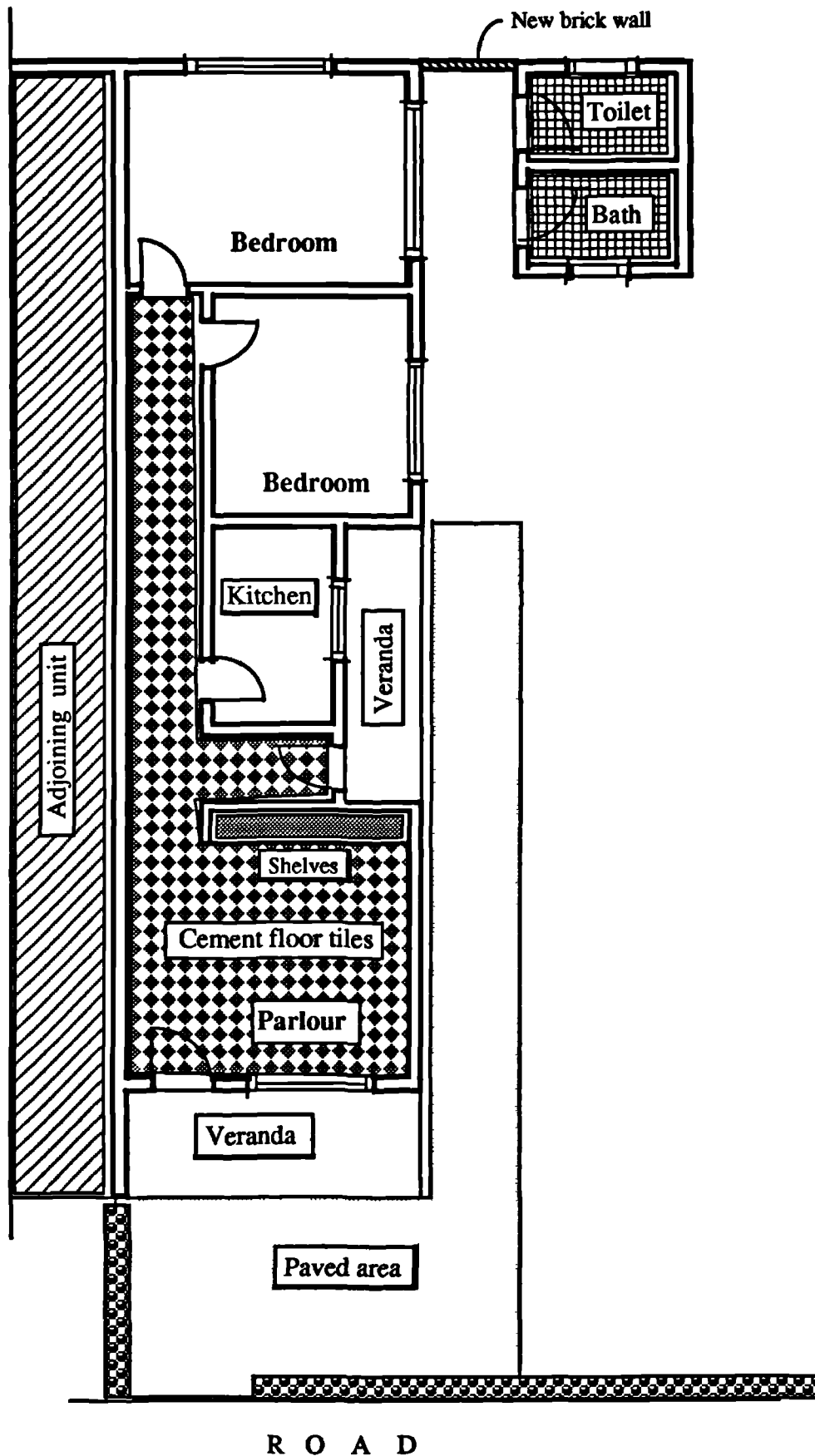
Plan showing some of the improvements



S T R E E T

## DWELLINGS PH01

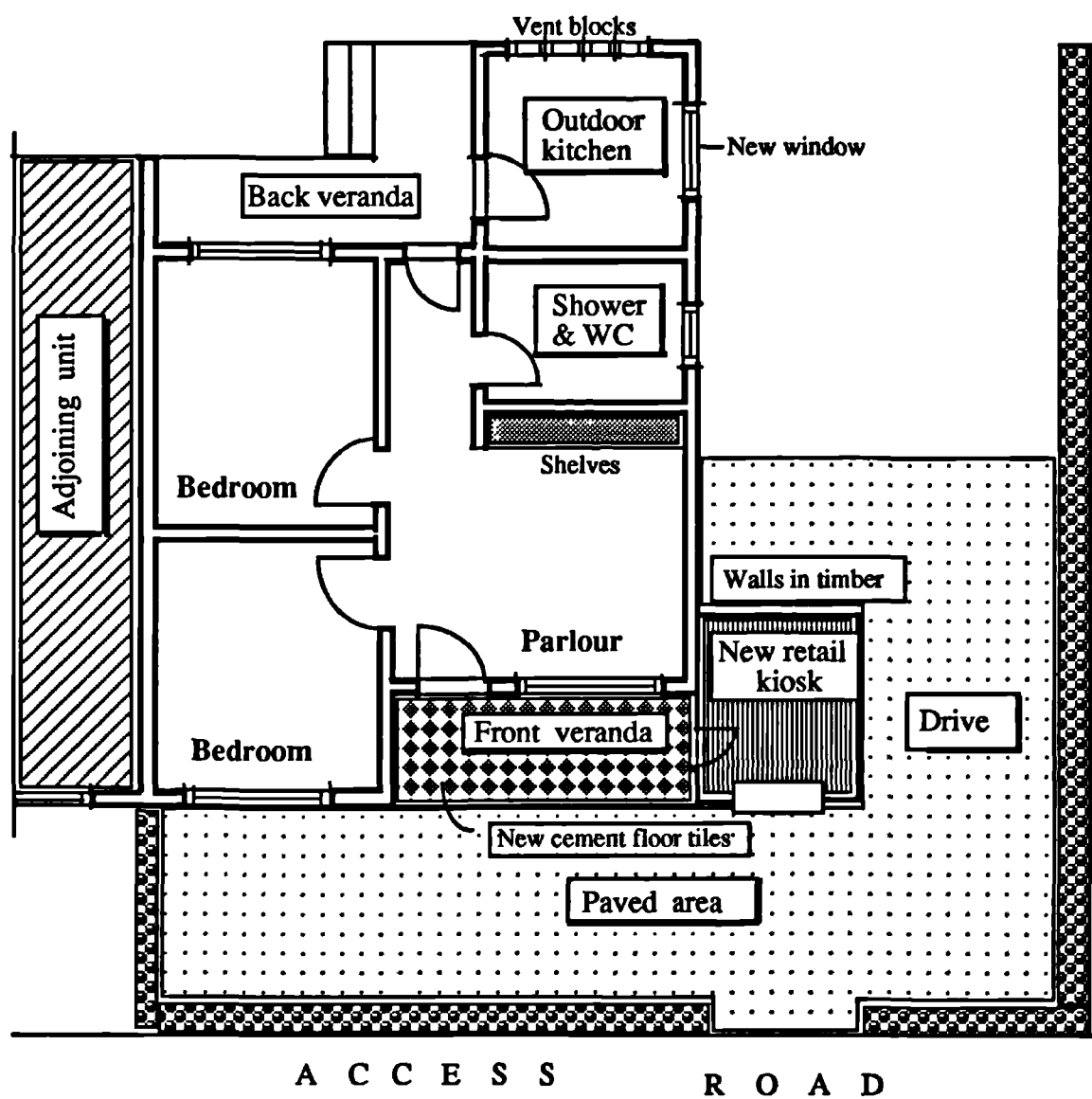
Plans showing some improvements



## APPENDIX 'C' CONT.

## DWELLING PH02

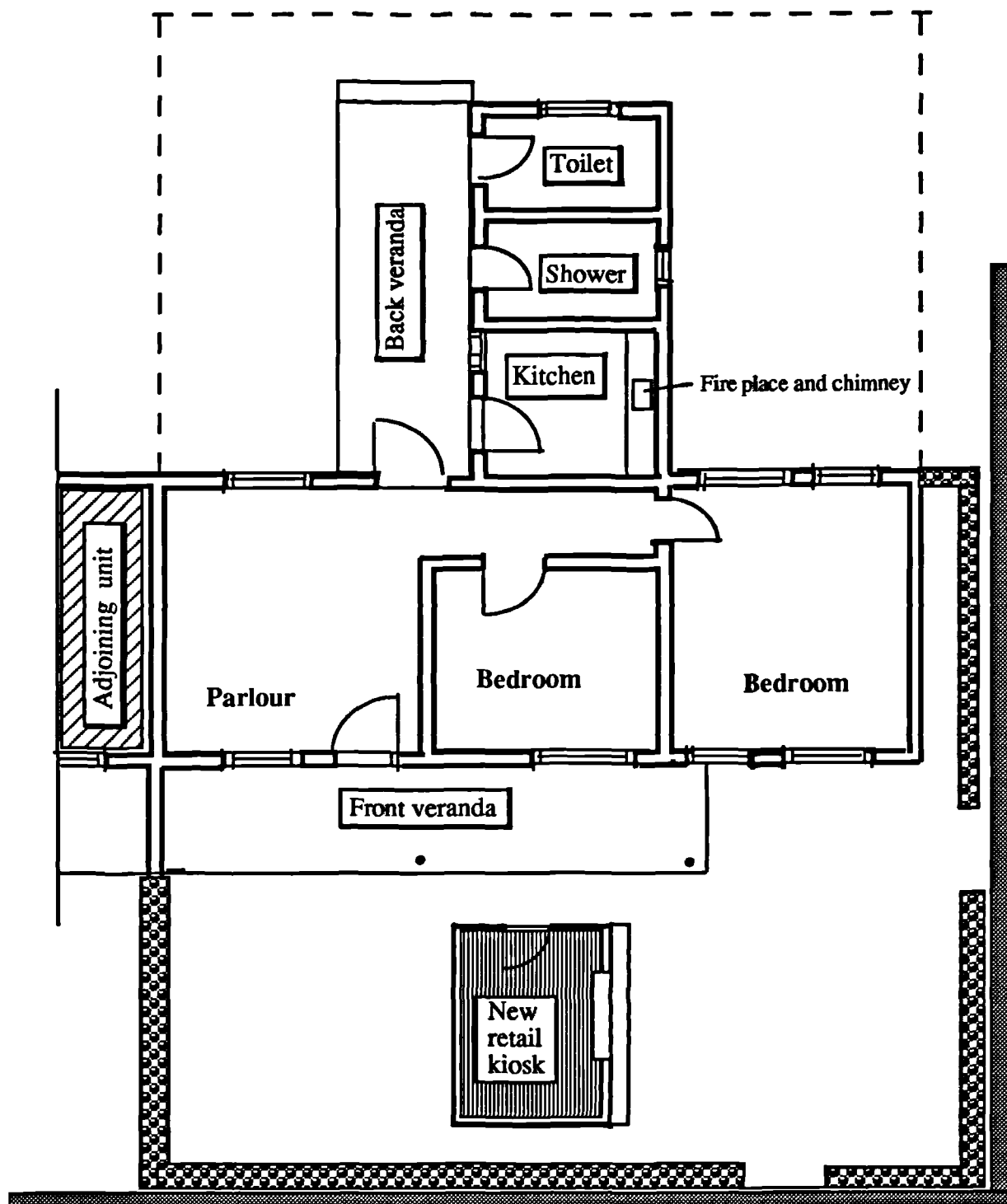
Plan showing some improvements



## APPENDIX 'C' CONT.

## DWELLINGS PH03

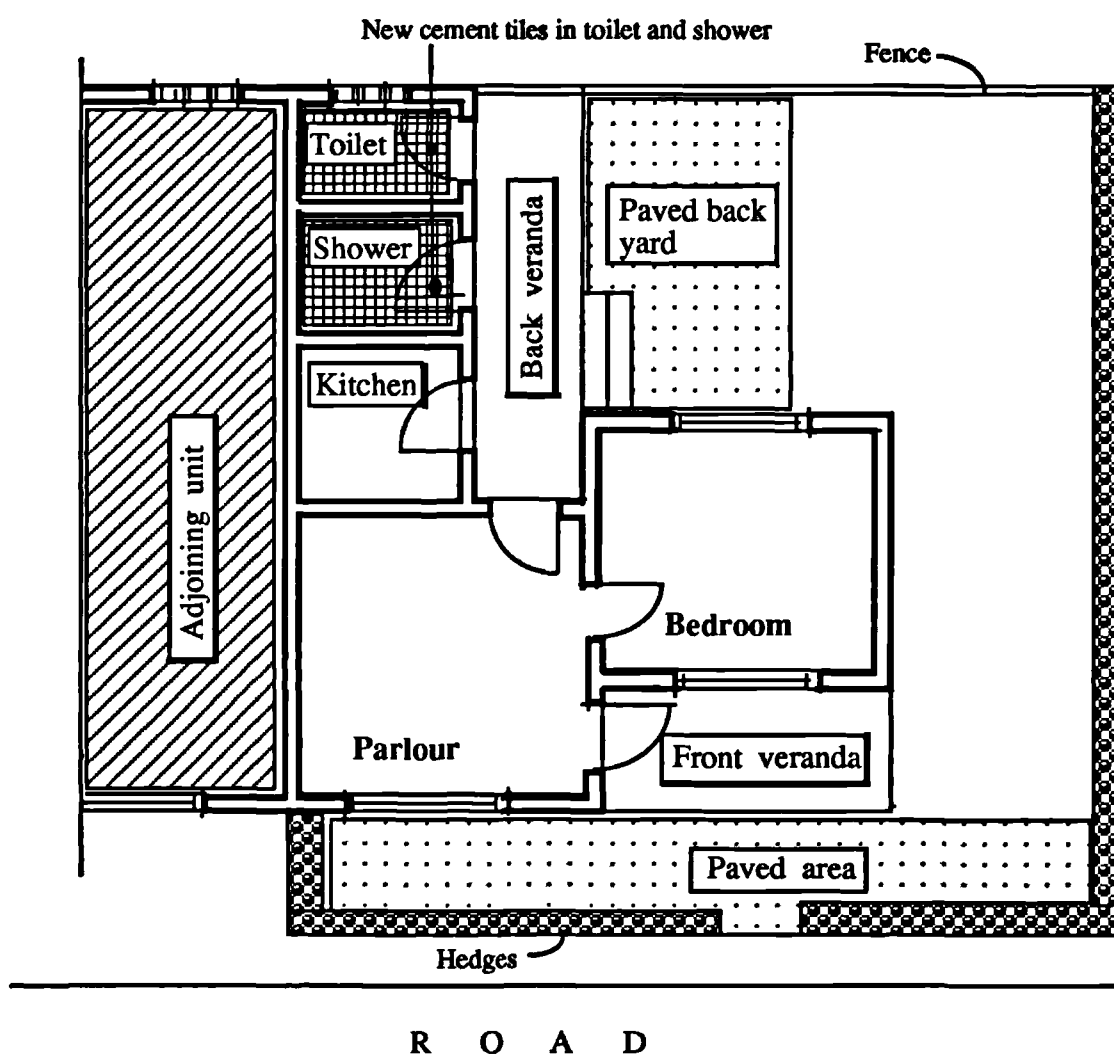
## Plan showing some improvements



## APPENDIX 'C' CONT.

## DWELLINGS PHO4

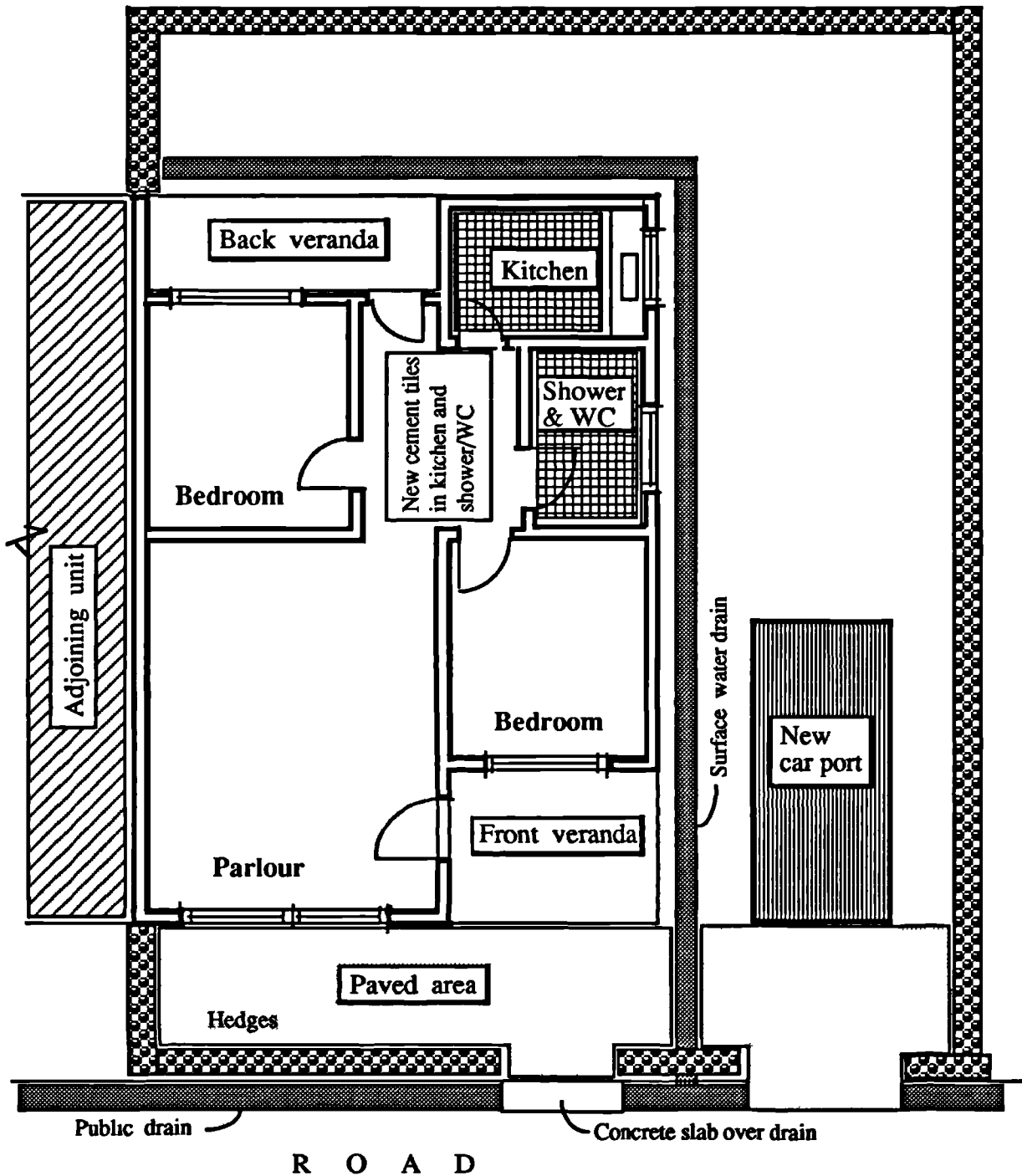
## Plan showing some improvements



## APPENDIX 'C' CONT.

## DWELLING PH05

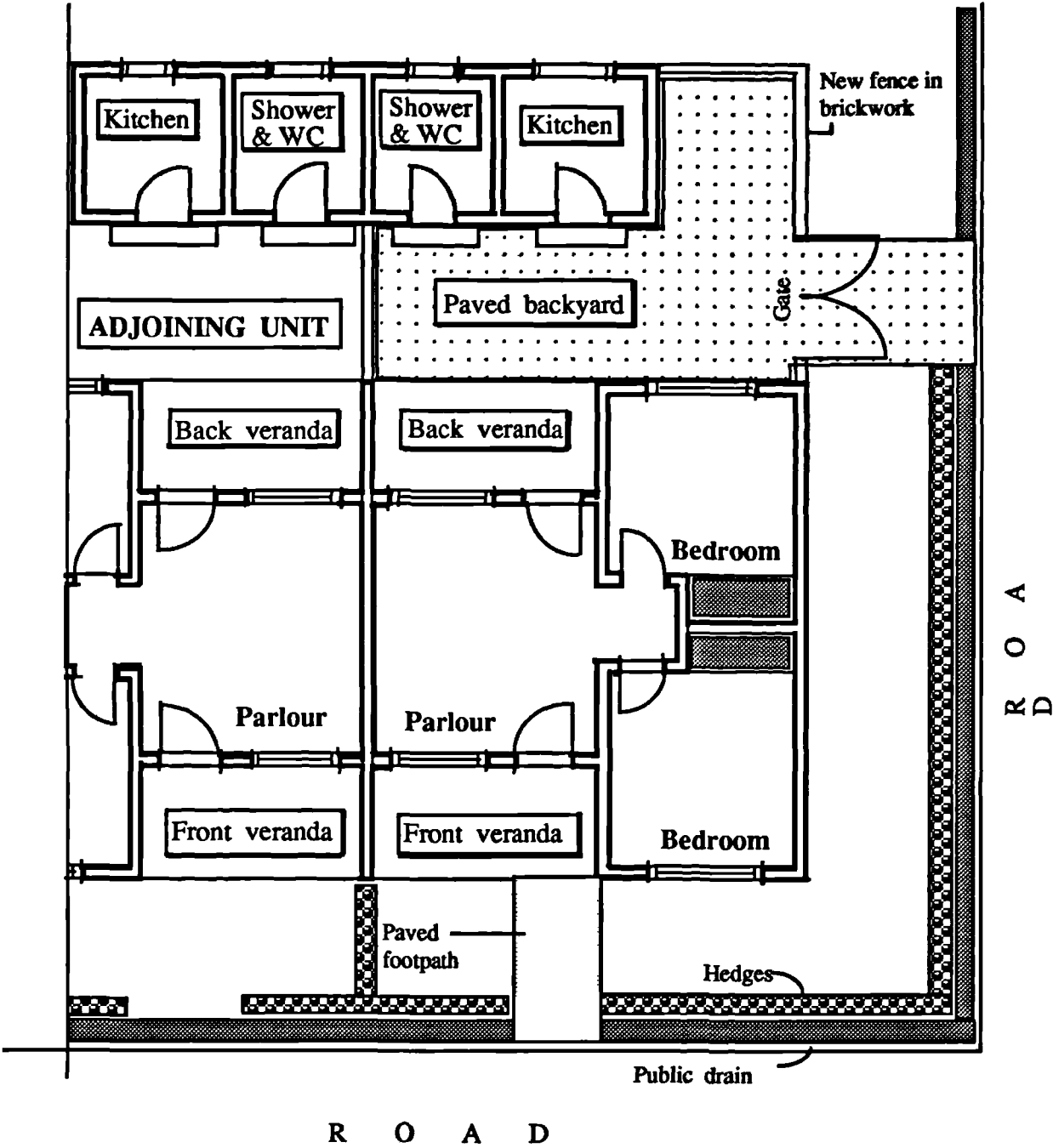
## Plan showing some improvements



APPENDIX 'C' CONT.

DWELLINGS PH06

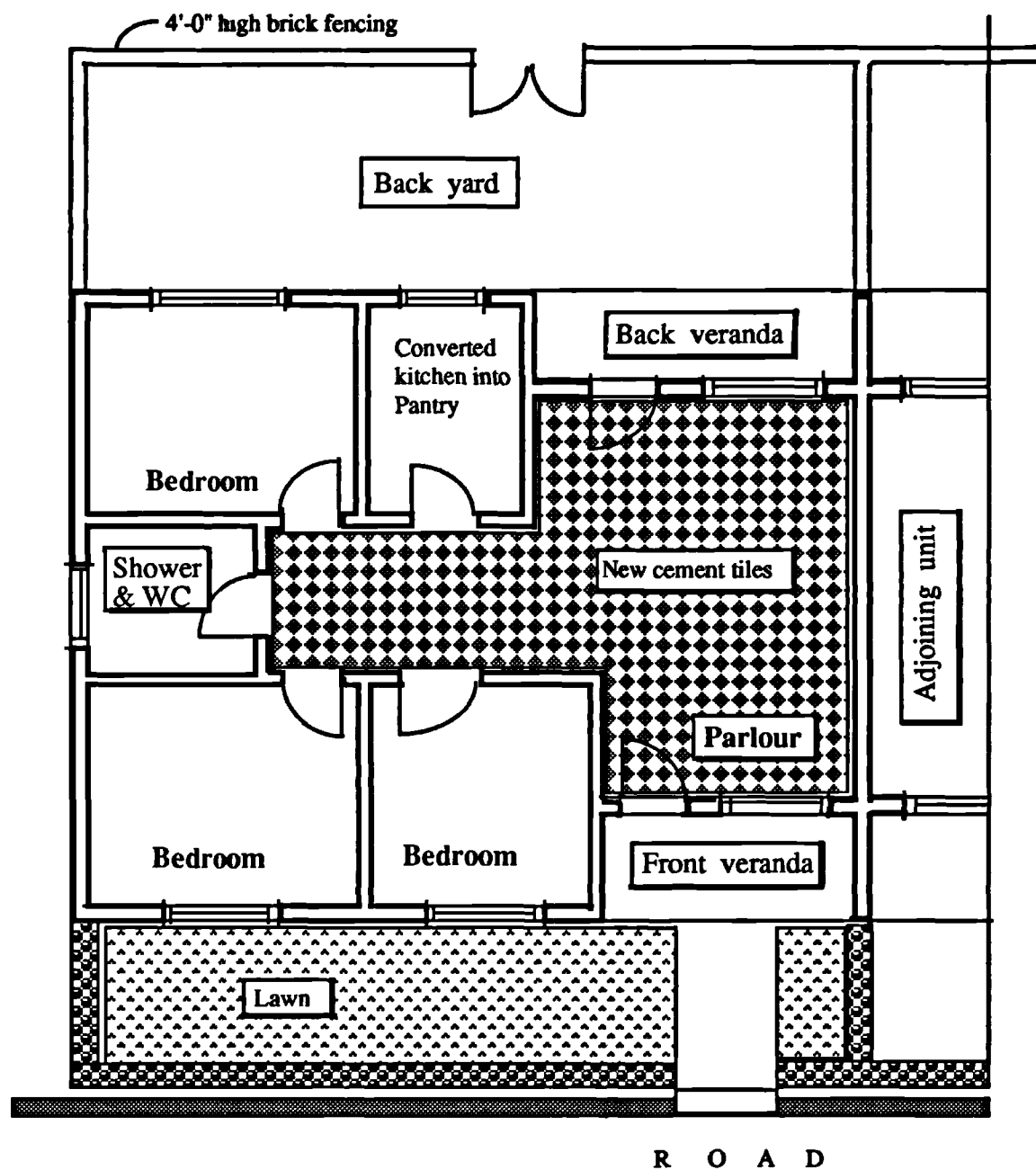
Plan showing some improvements



## APPENDIX 'C' CONT.

## DWELLING PH07

Plan showing some improvements

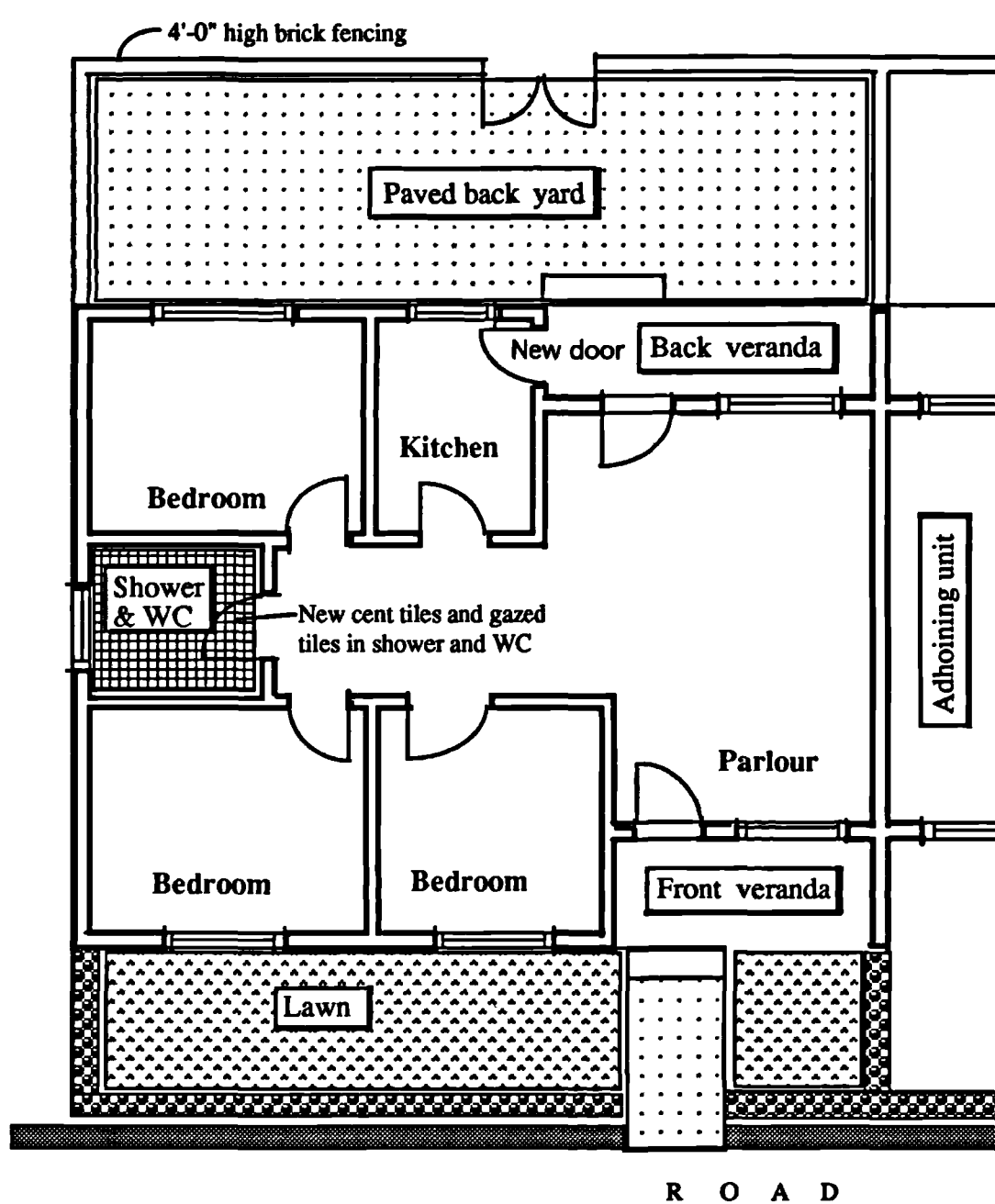




## APPENDIX 'C' CONT.

## DWELLING PH08

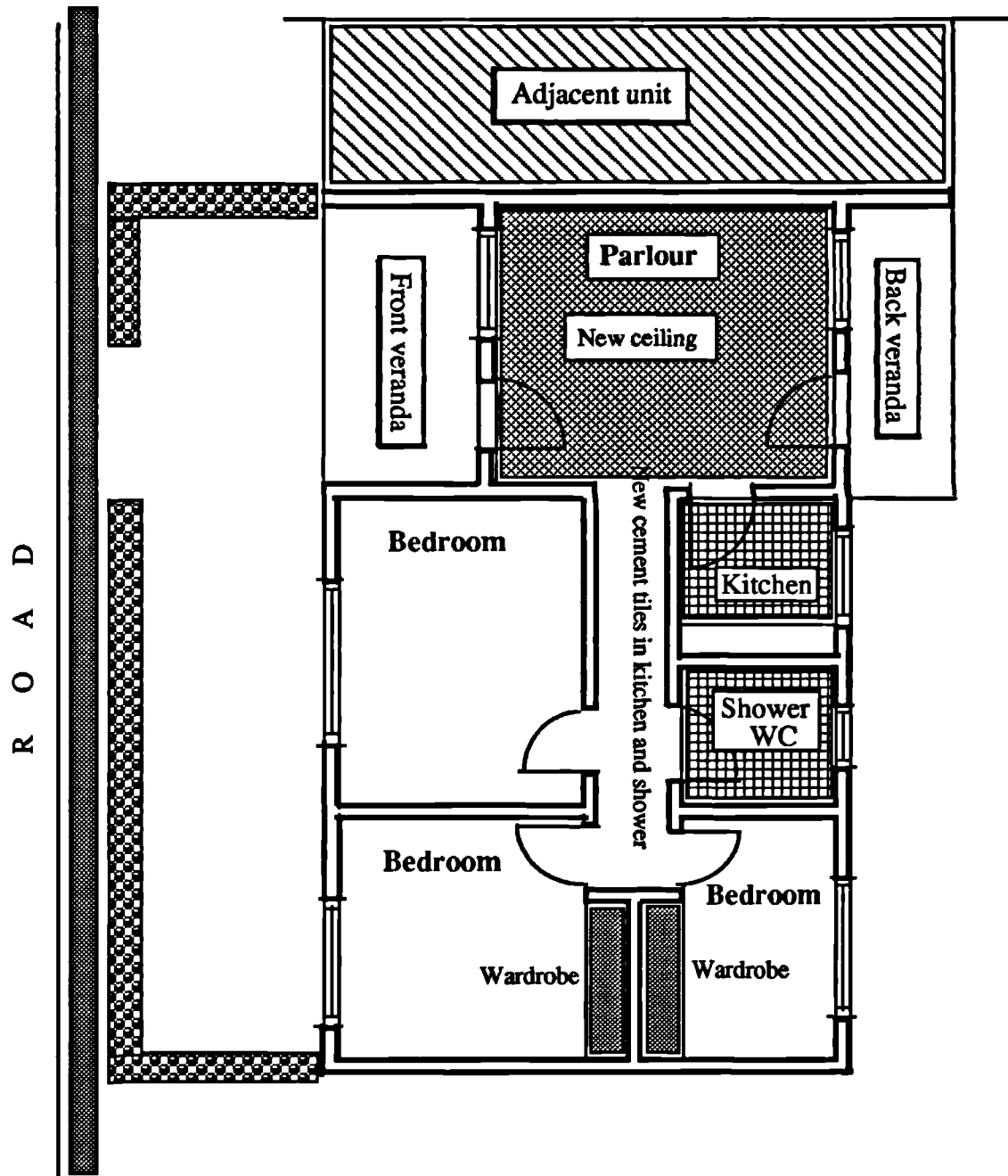
Plan showing some improvements



## APPENDIX 'C' CONT.

## DWELLING PH09

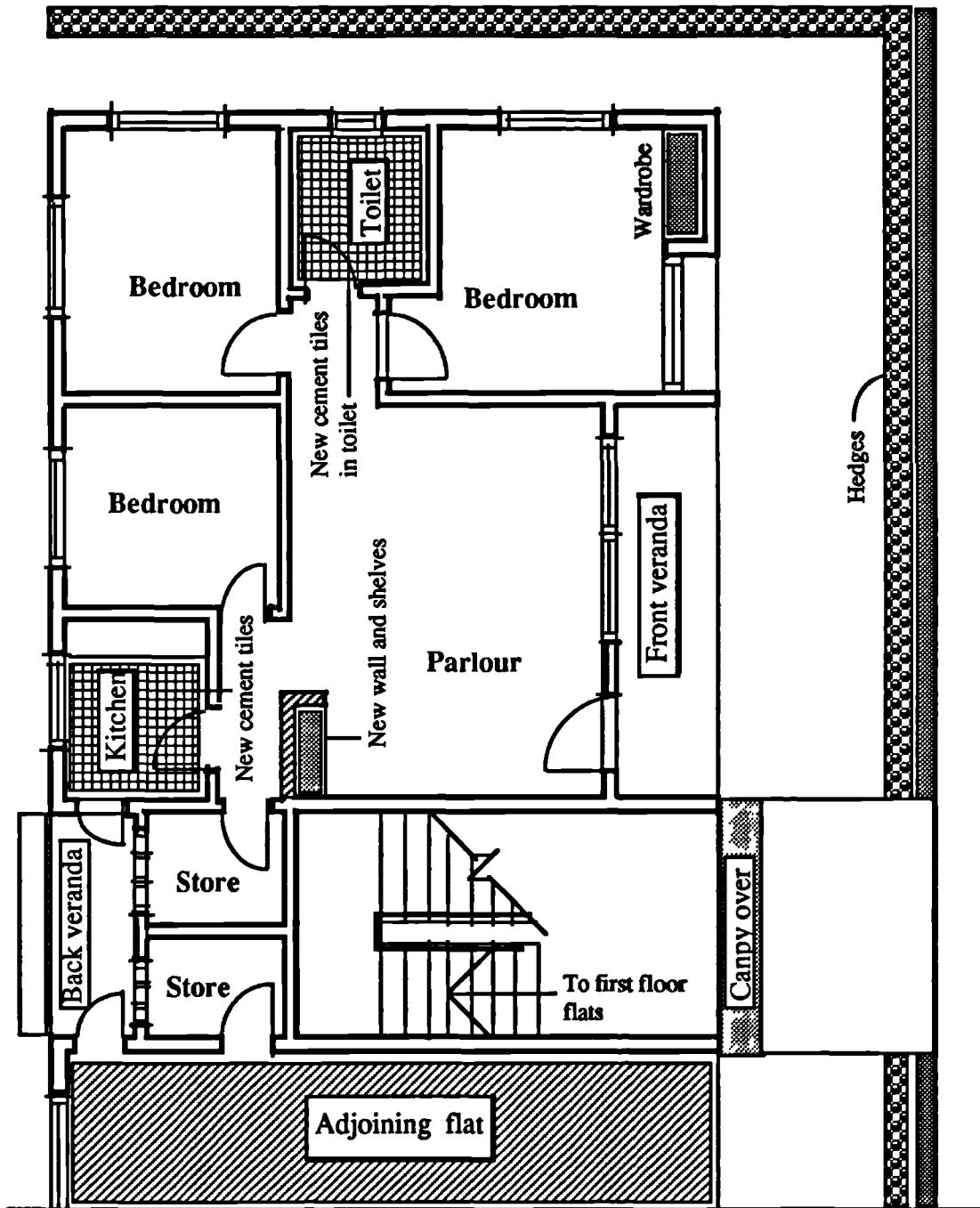
## Plan showing some improvements



## APPENDIX 'C' CONT.

## DWELLING PH10

Plan showing some improvements

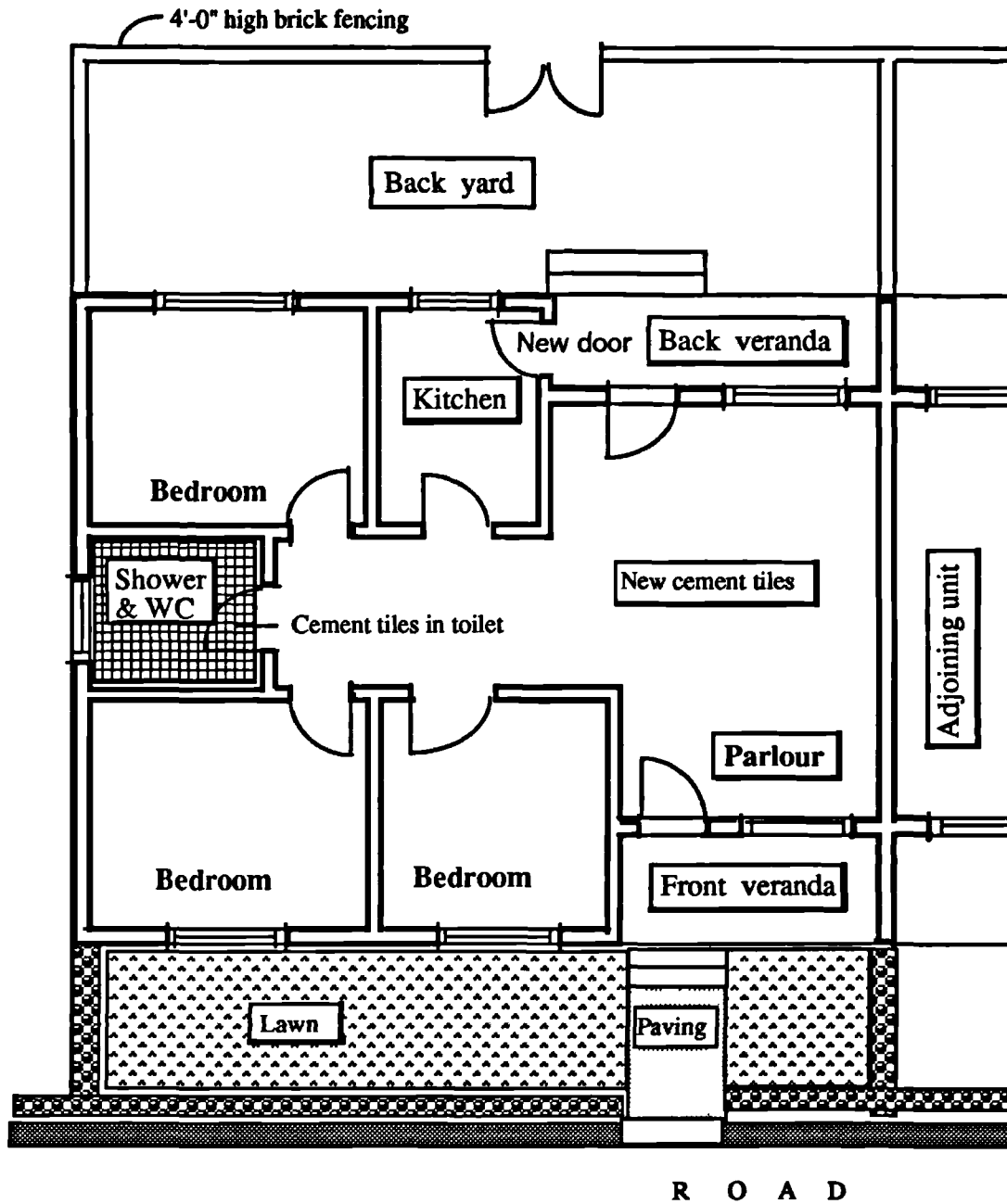


R O A D

## APPENDIX 'C' CONT.

## DWELLING PH11

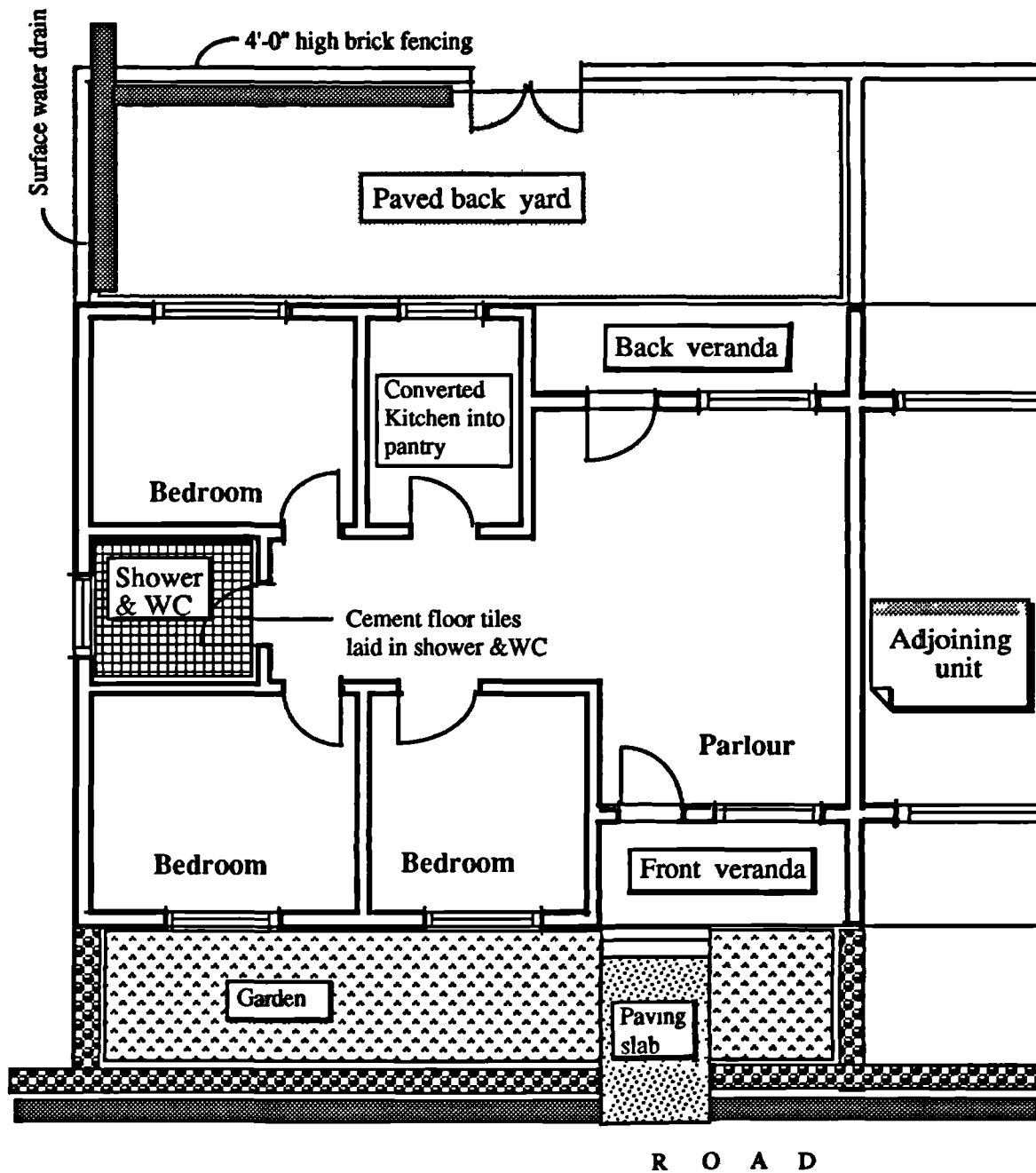
Plan showing some improvements



## APPENDIX 'C' CONT.

## DWELLING PH12

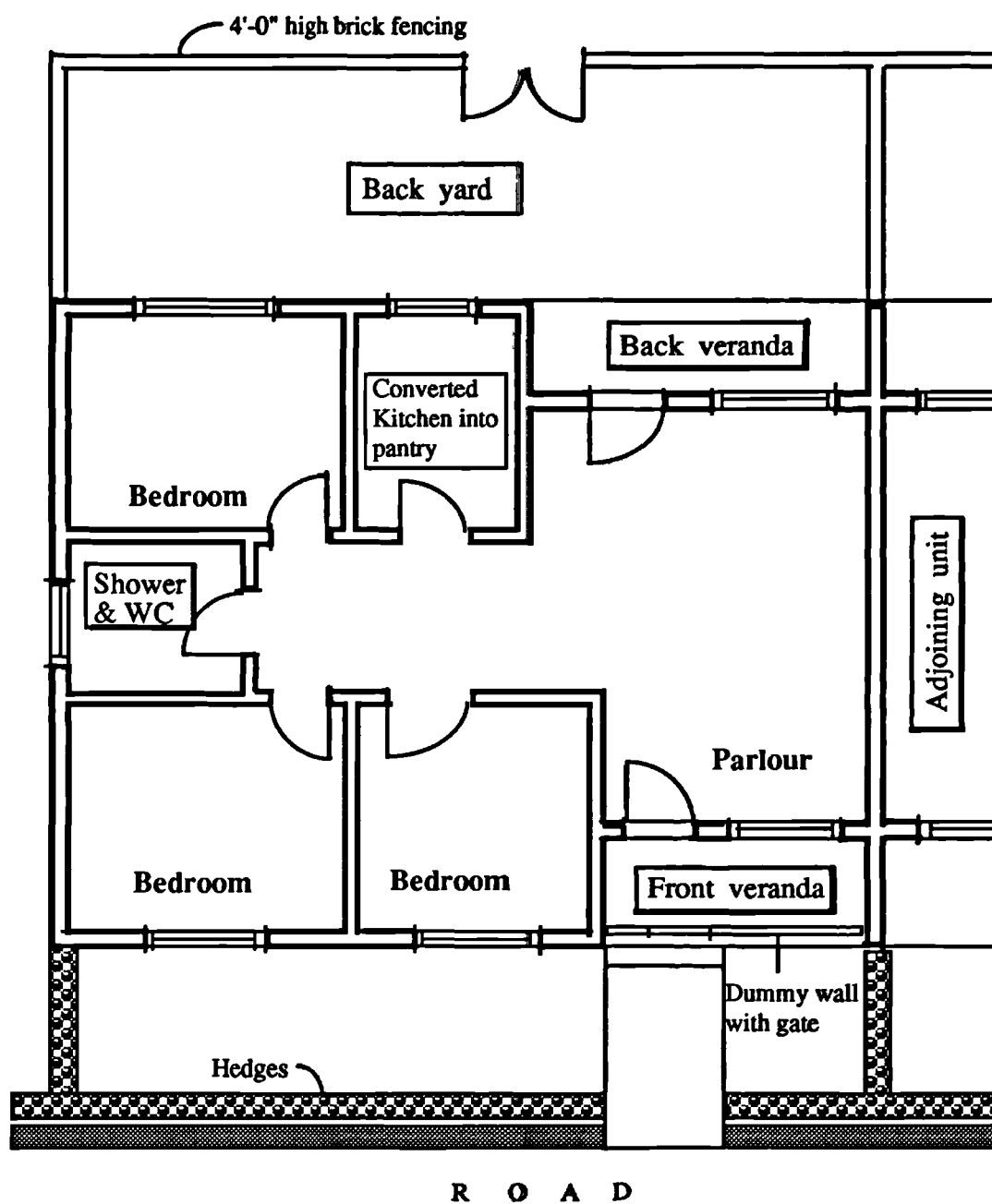
Plan showing some improvements



## APPENDIX 'C' CONT.

## DWELLING PH13 - SEMI-DETACHED

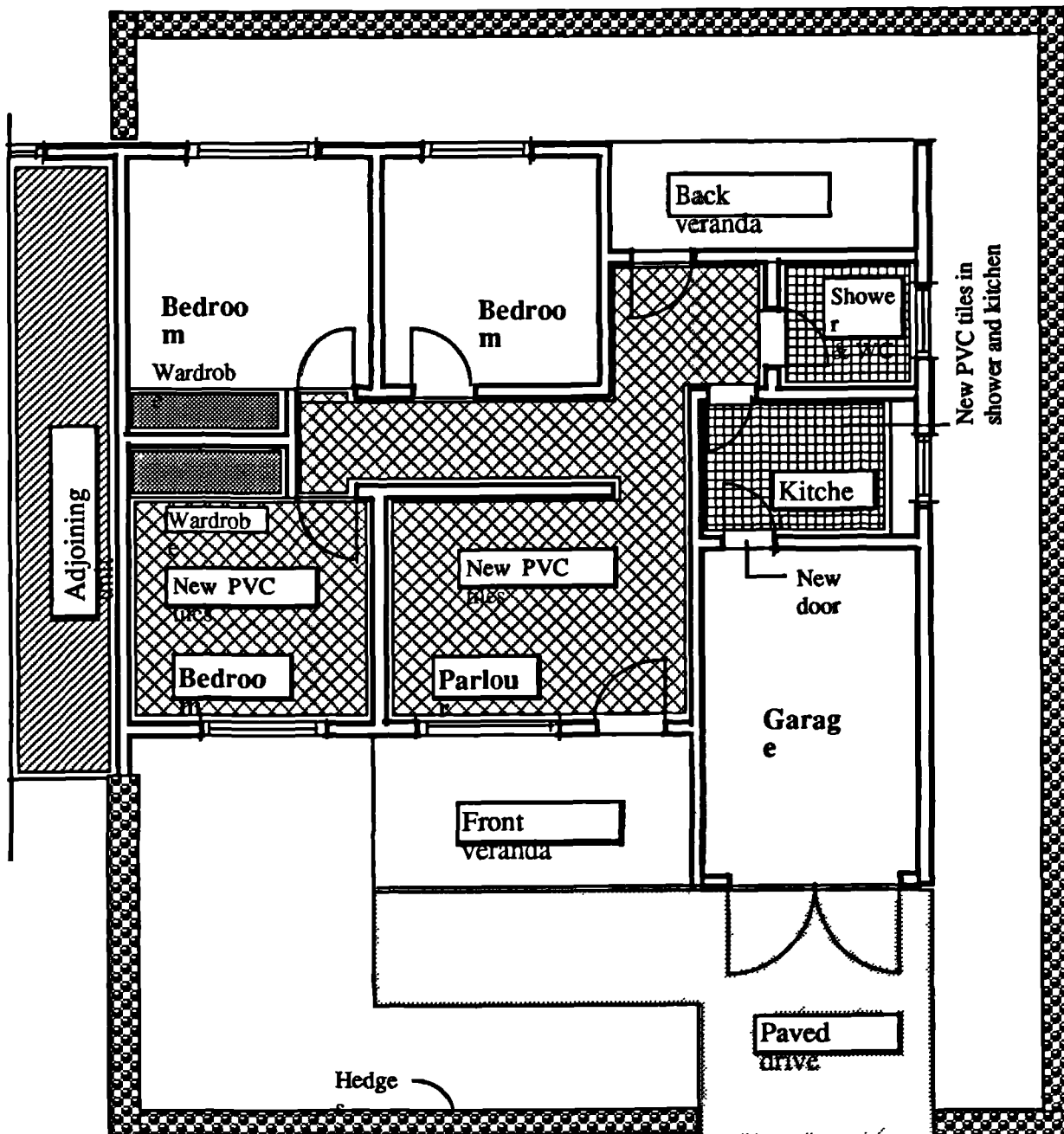
Plan showing some improvements



## APPENDIX 'C' CONT.

## DWELLING PH14

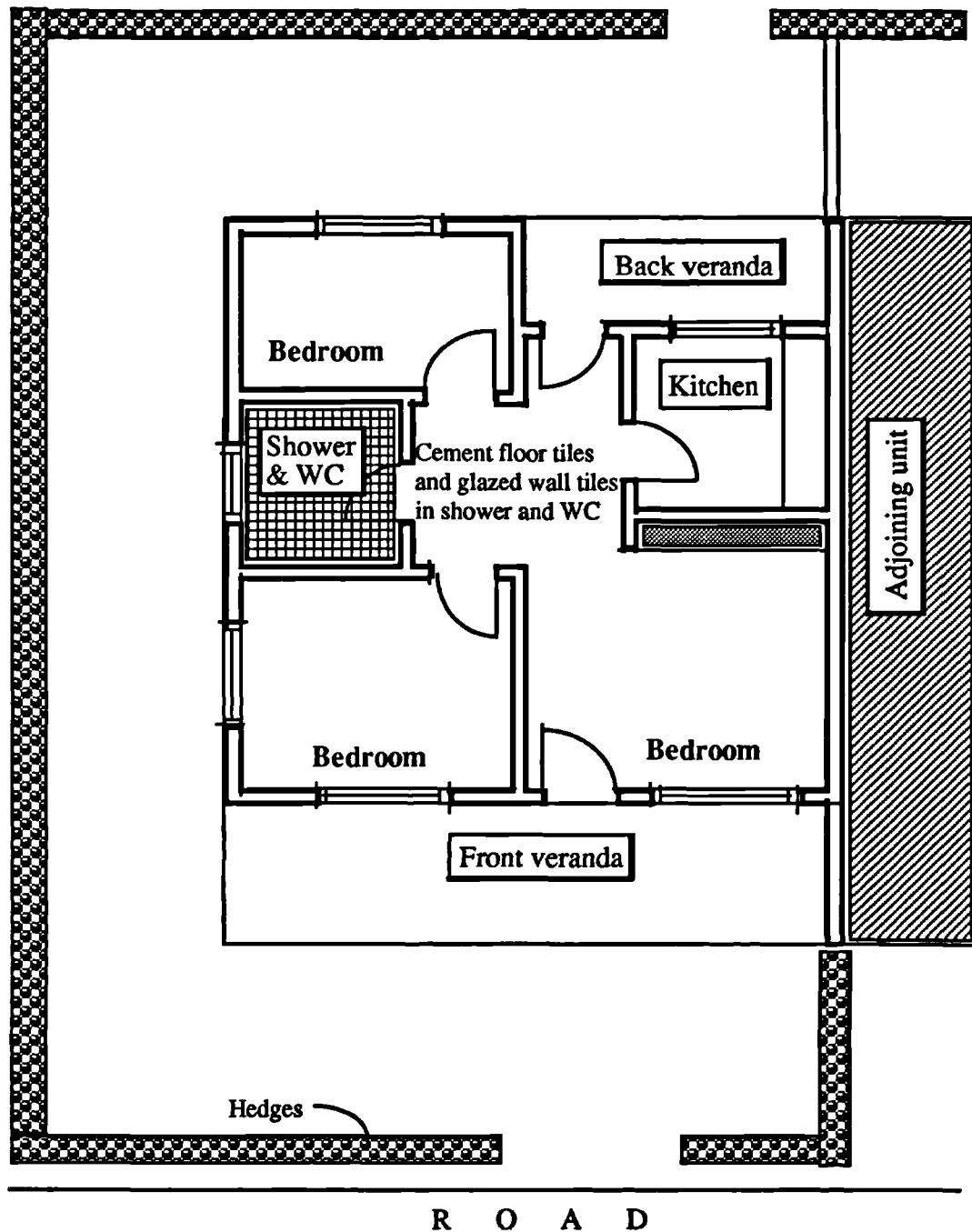
Plan showing some improvements



## APPENDIX 'C' CONT.

## DWELLING PH15

Plan showing some improvements

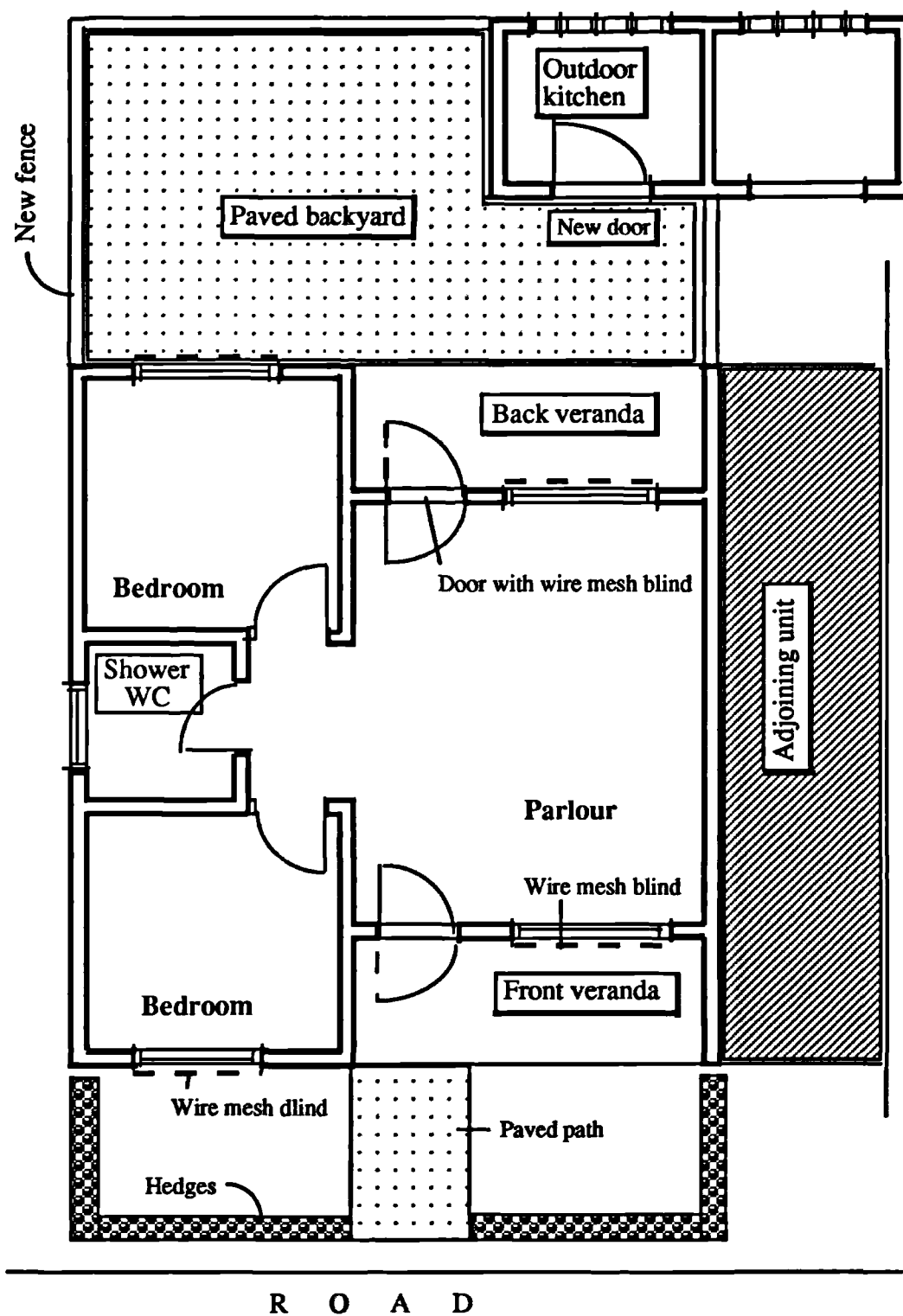




## APPENDIX 'C' CONT.

## DWELLING PH16

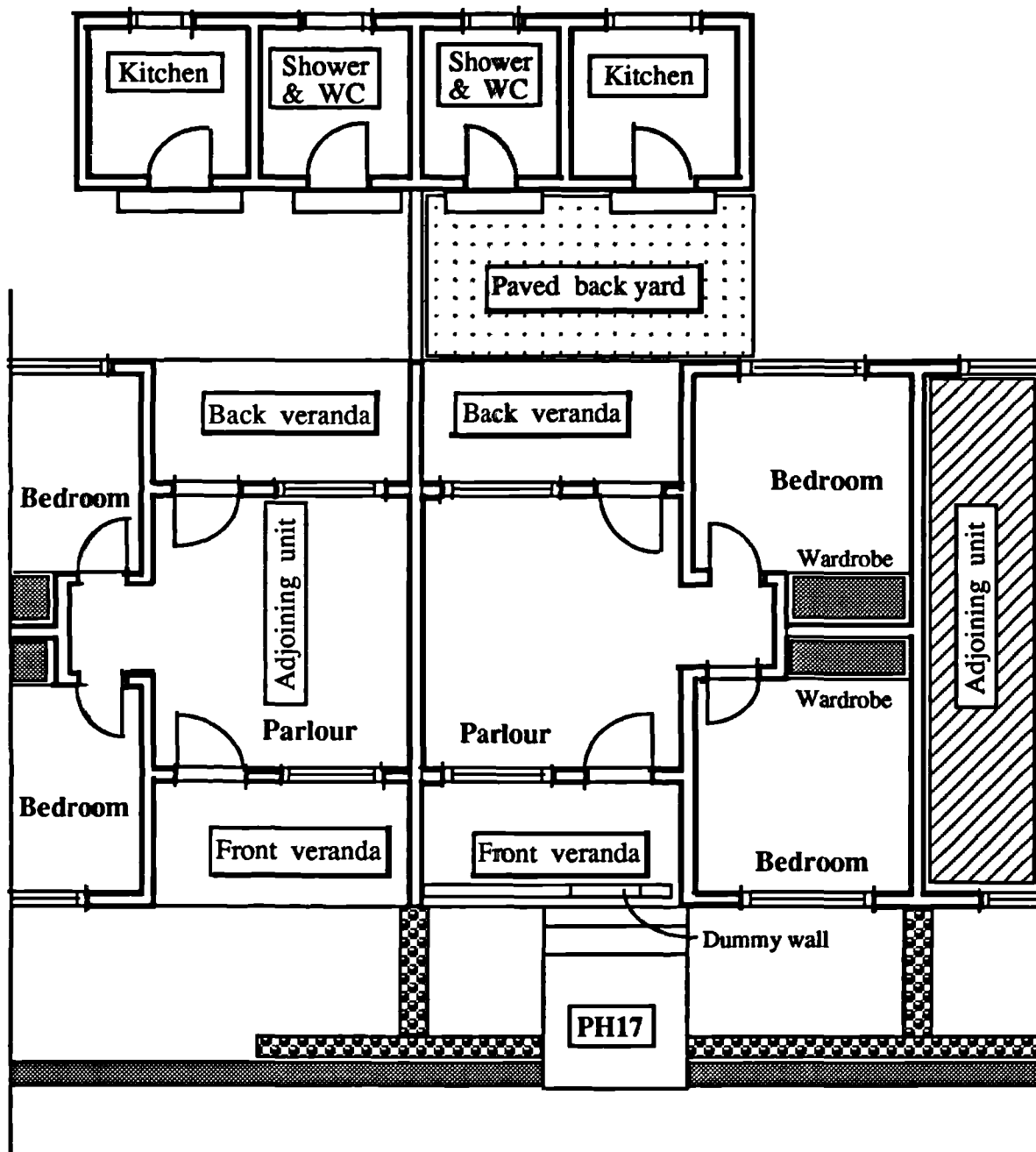
Plan showing some improvements



## APPENDIX 'C' CONT.

## DWELLINGS PH17 - ADJOINING

Plan showing some improvements

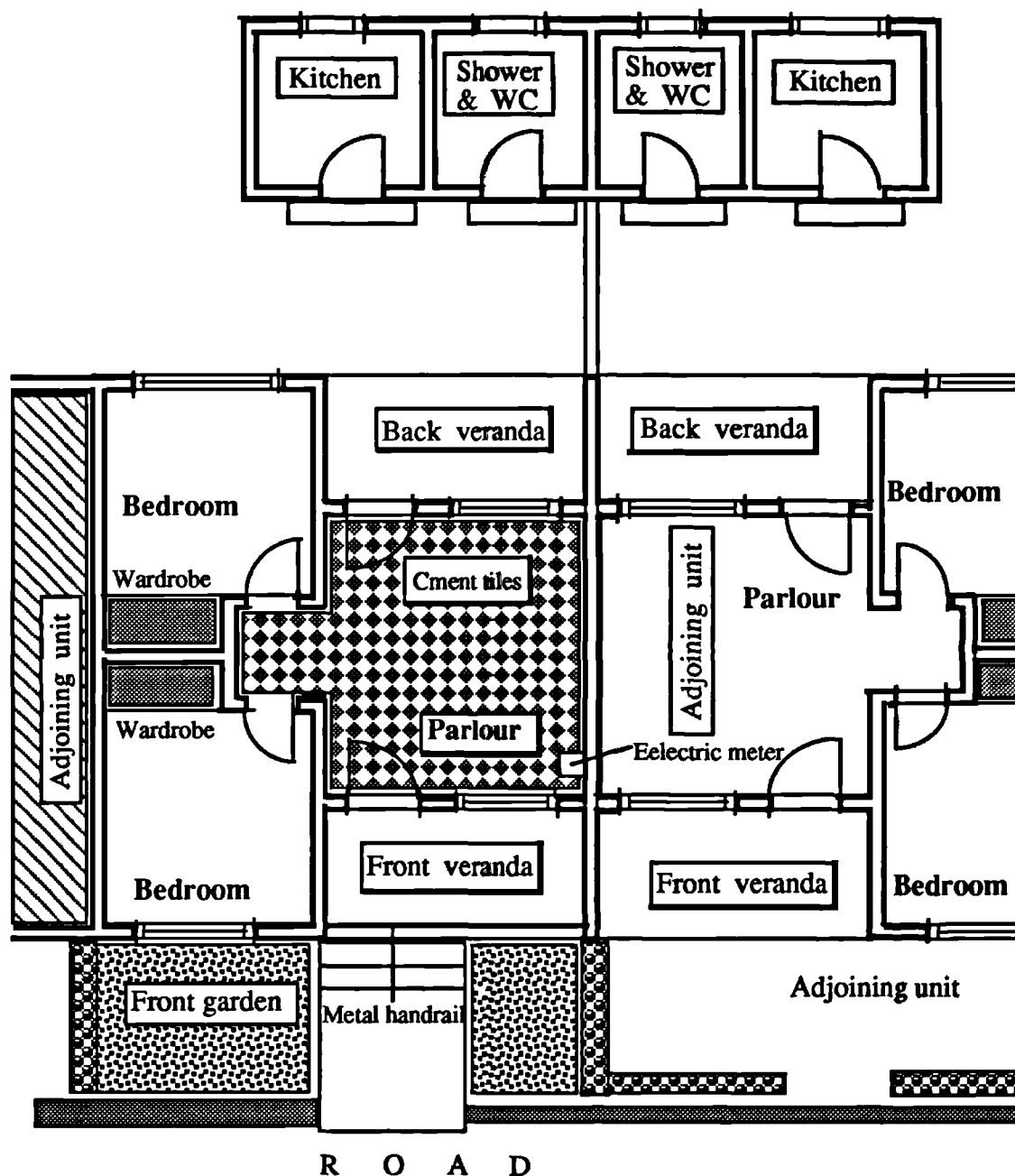


## APPENDIX 'C' CONT.

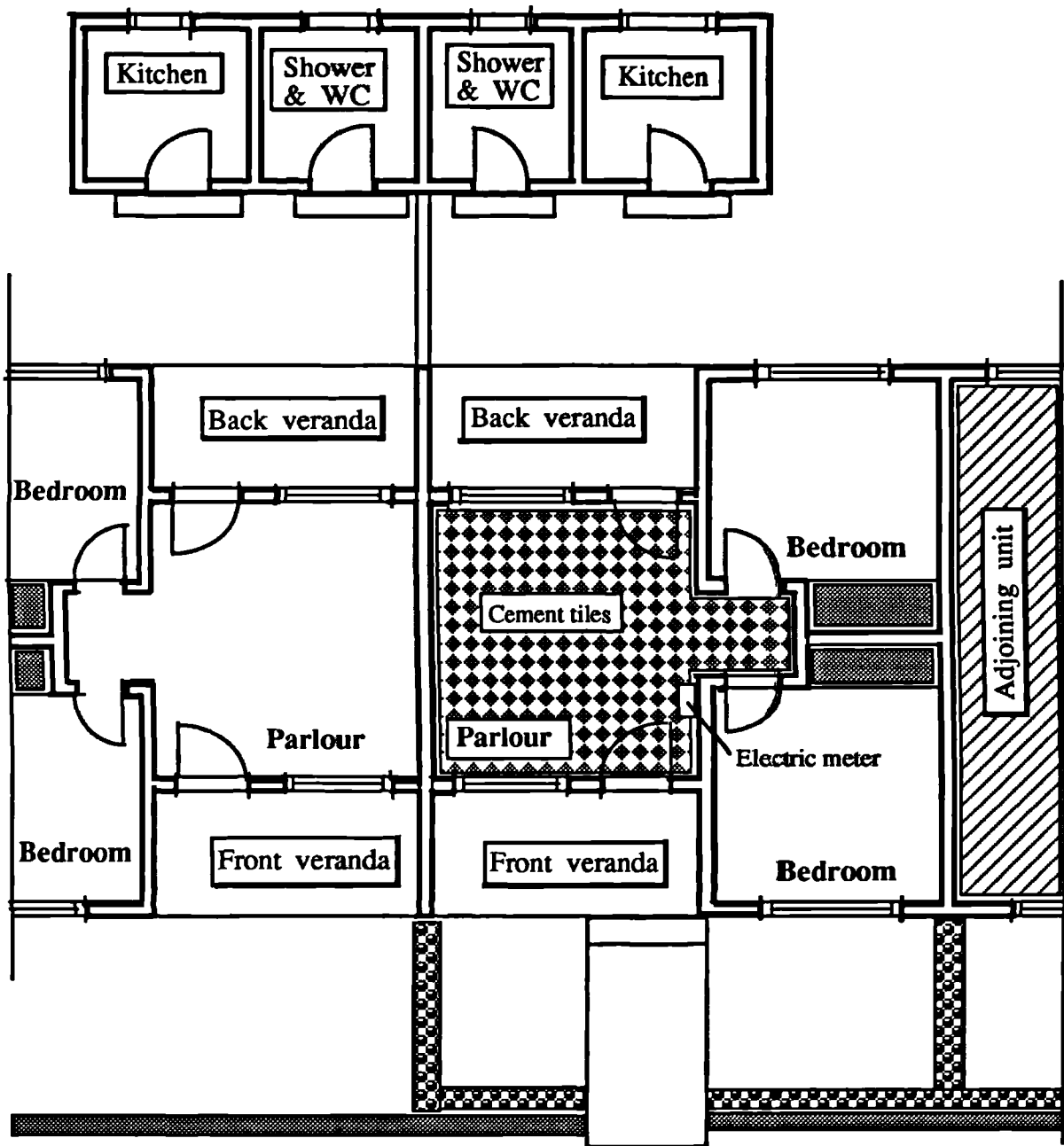
## DWELLING PH18 - ADJOINING

Plan showing some improvements

See Fig. 7



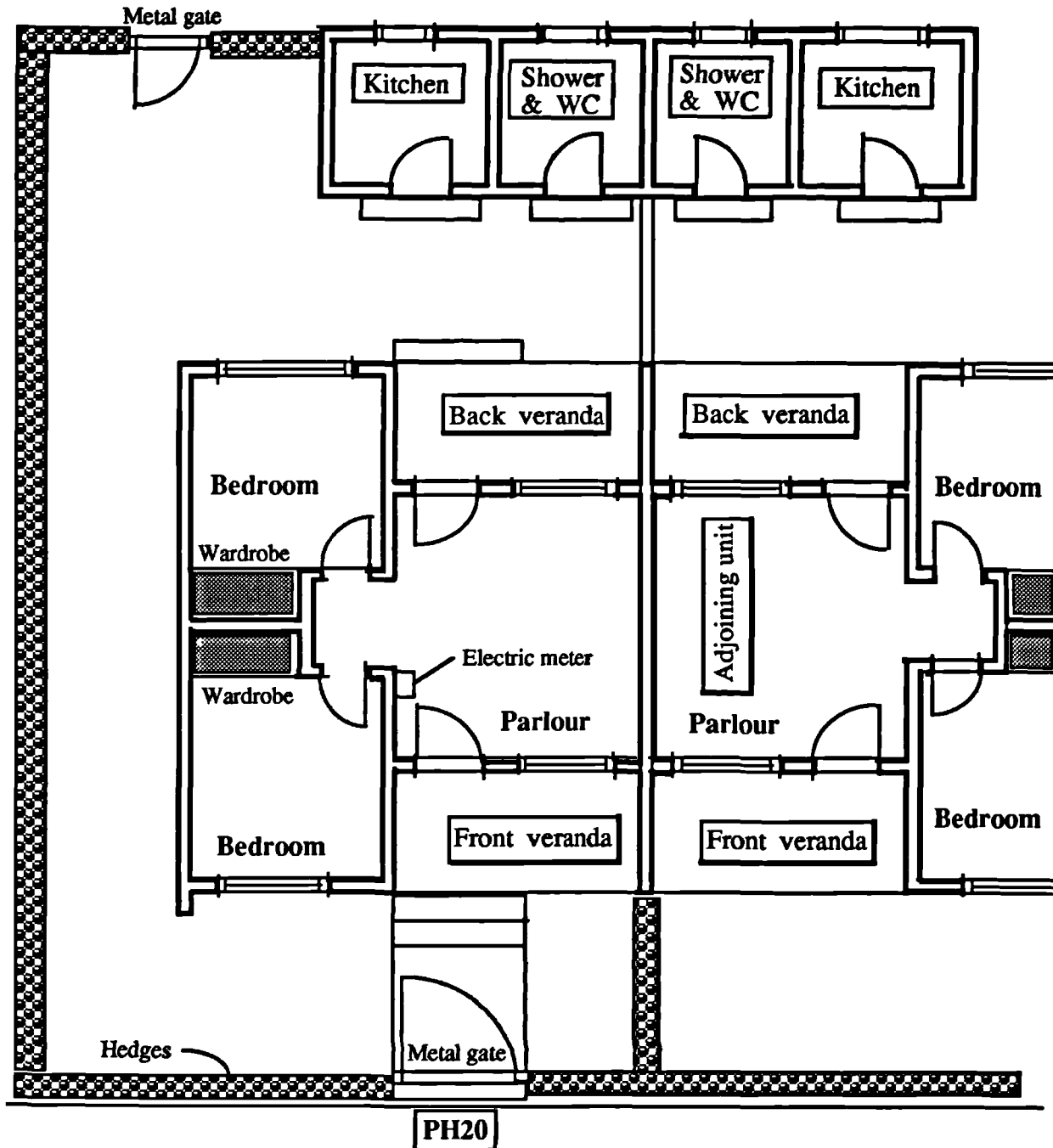
APPENDIX 'C' CONT.  
DWELLING PH19 -ADJOINING  
Plan showing some improvements



## APPENDIX 'C' CONT.

## DWELLINGS PH20 - SEMI-DETACHED

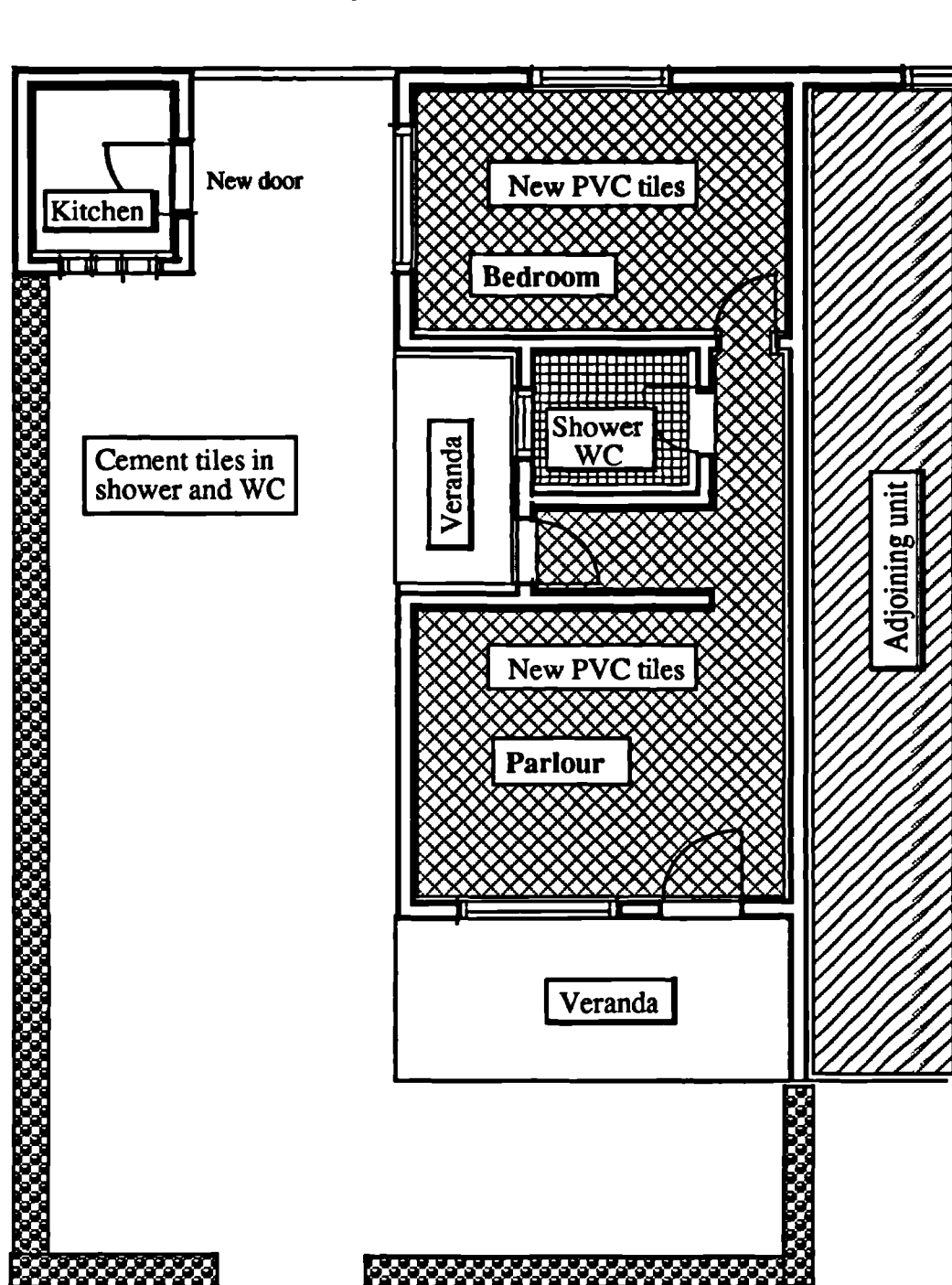
Plan showing some improvements



## APPENDIX 'C' CONT.

## DWELLING PH21 -SEMI DETACHED

## Plan showing some improvements

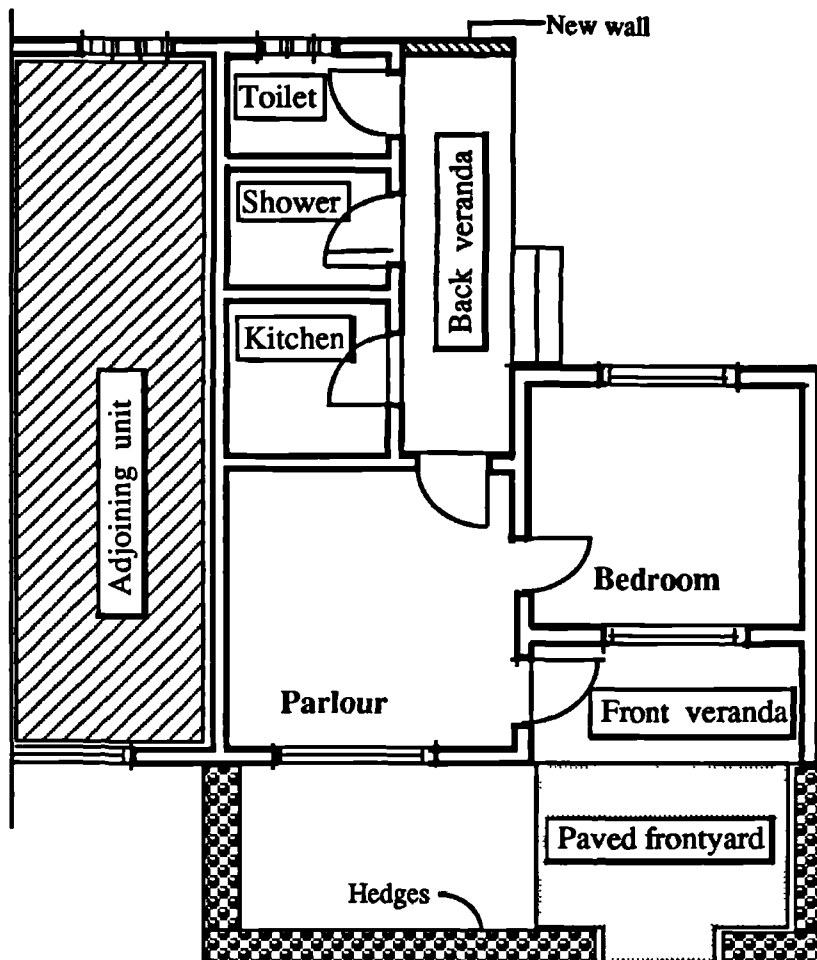


R O A D

## APPENDIX 'C' CONT.

## DWELLINGS PH22 : SEMI-DETACHED

## Plan showing some improvements

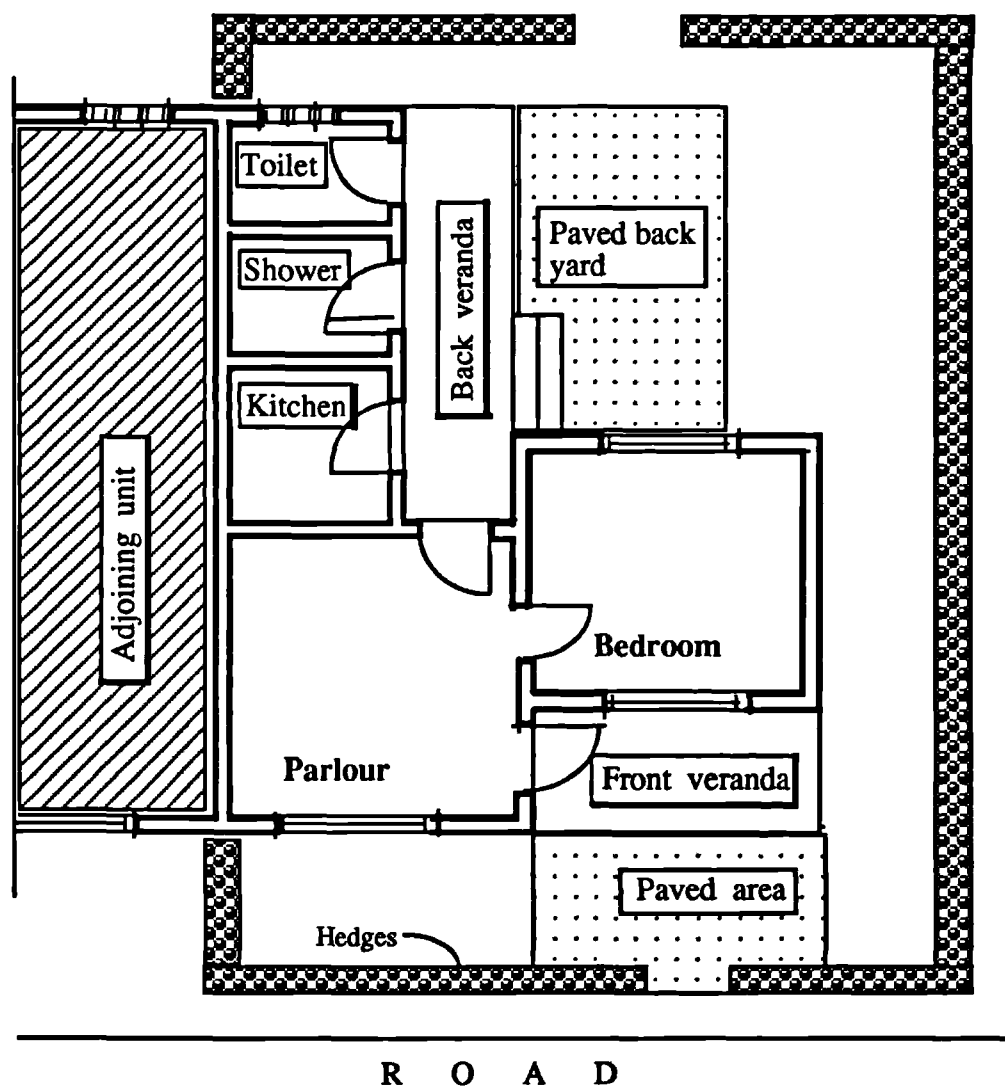


R O A D

APPENDIX 'C' CONT.

DWELLING PH23 : SEMI-DETACHED

Plan showing some improvements

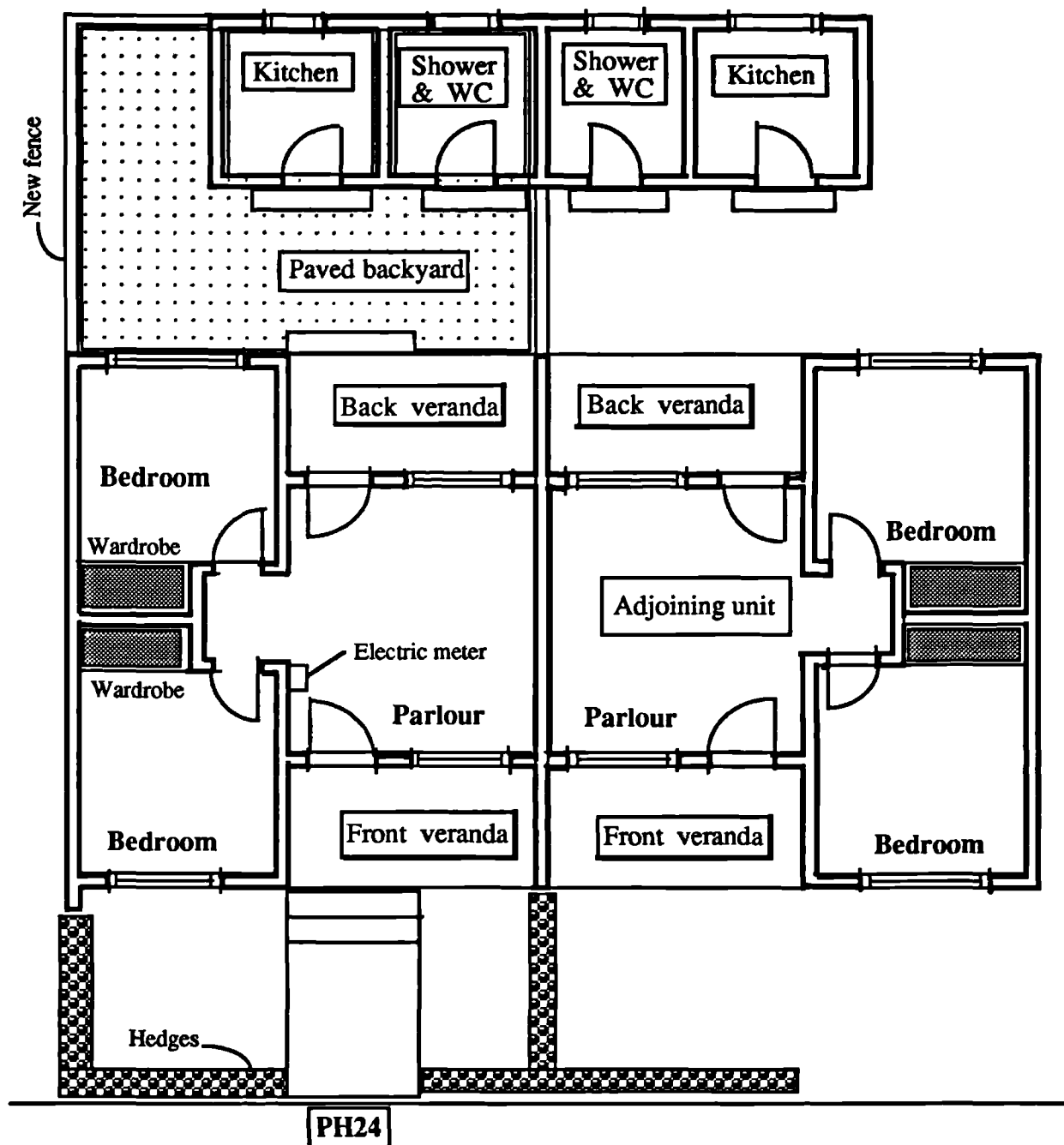




## APPENDIX 'C' CONT.

## DWELLINGS PH24

Plan showing some improvements

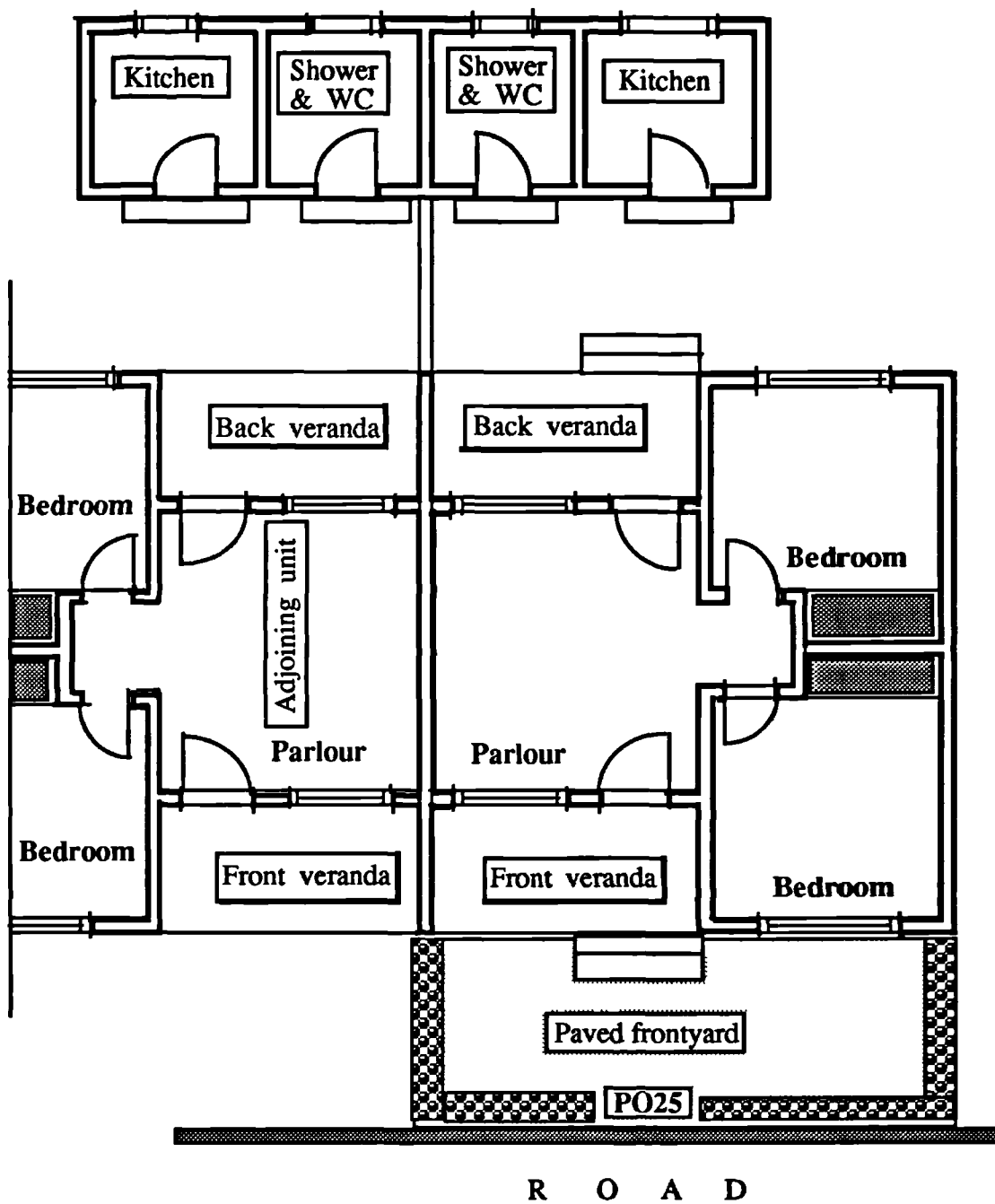


R O A D

## APPENDIX 'C' CONT.

## DWELLING PH25

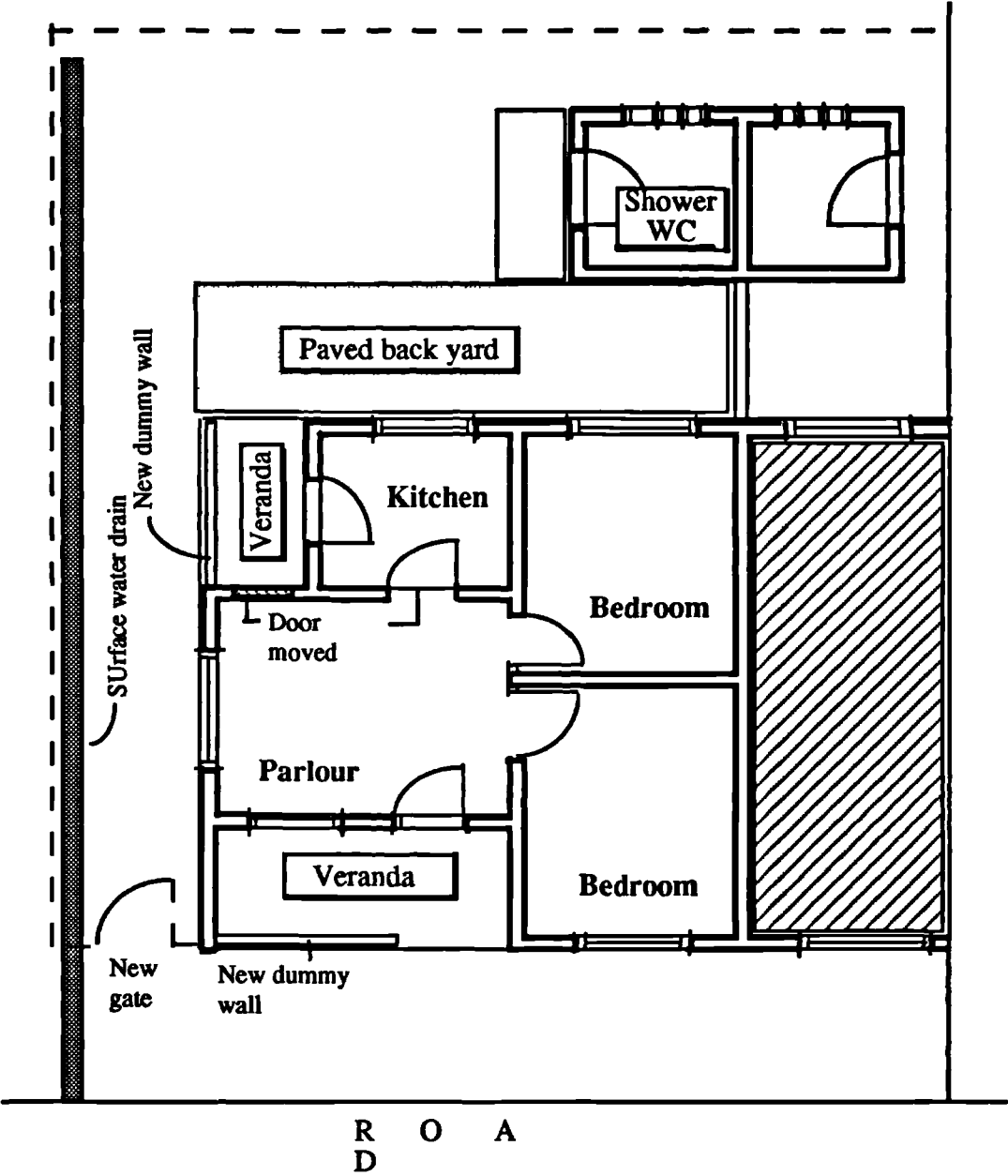
Plan showing some improvements



APPENDIX 'C' CONT.

DWELLING PR01 - SEMI-DETACHED

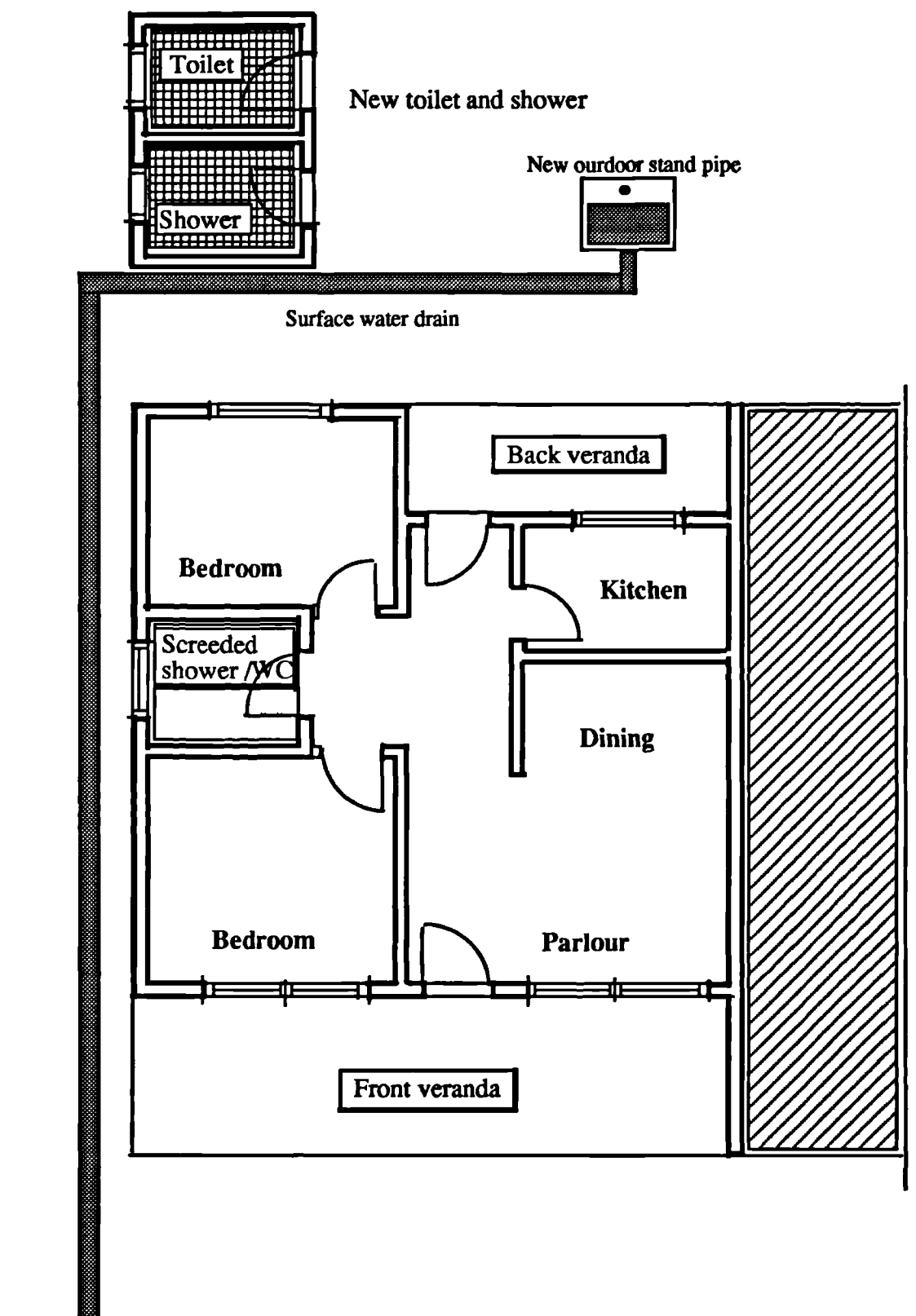
Plan showing some improvements



## APPENDIX 'C' CONT.

## DWELLING PR02 - SEMI-DETACHED

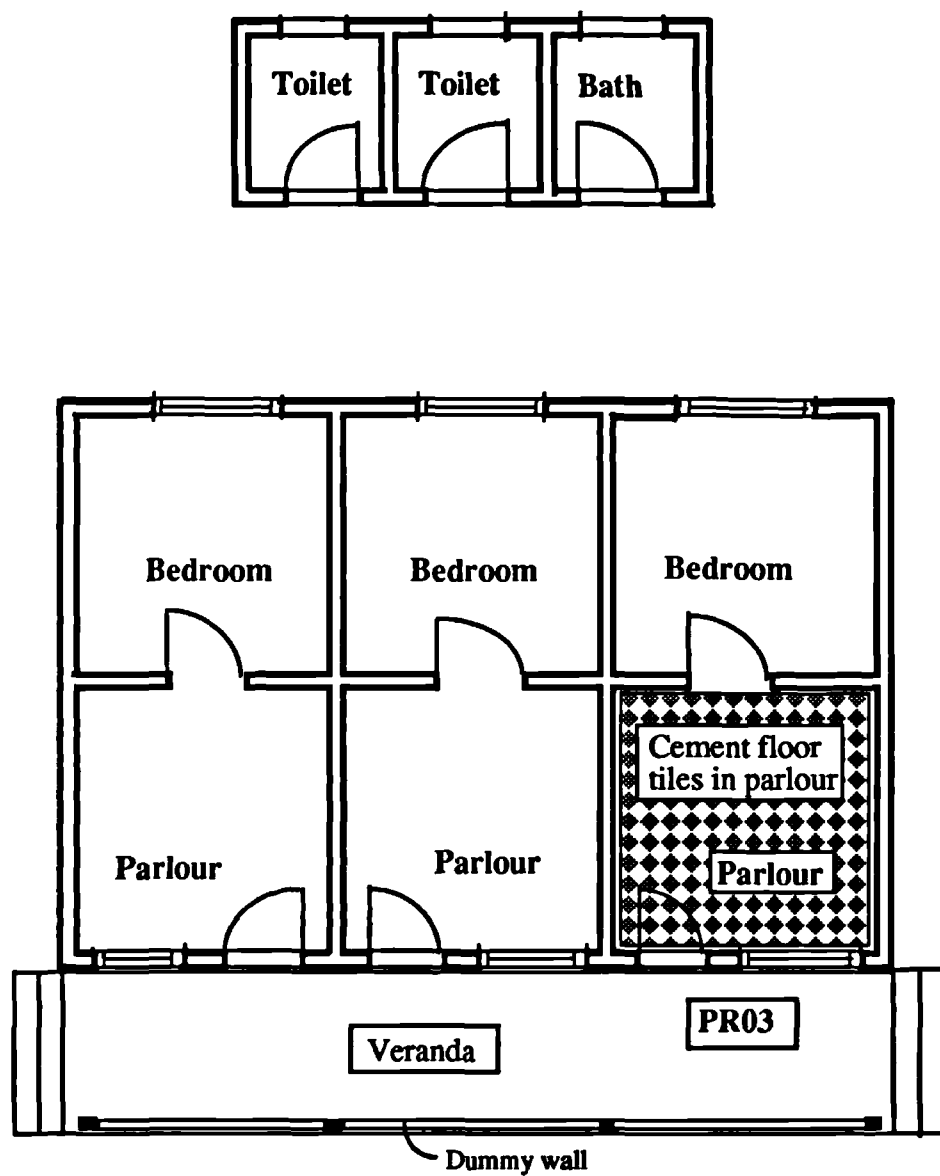
## Plan showing some improvements



## APPENDIX 'C' CONT.

DWELLING PR03 - ADJOINING

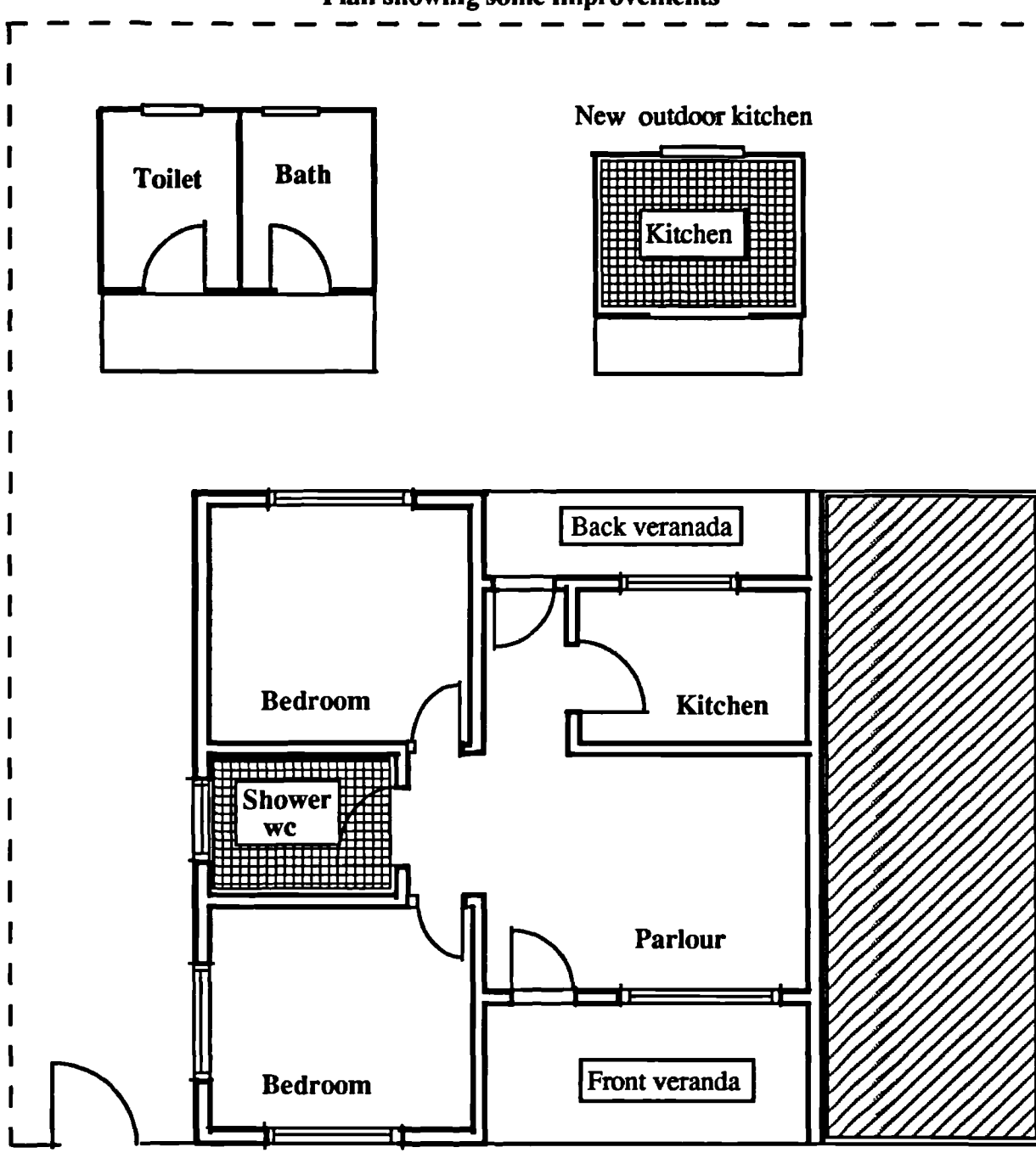
Plan showing some improvements



## APPENDIX 'C' CONT.

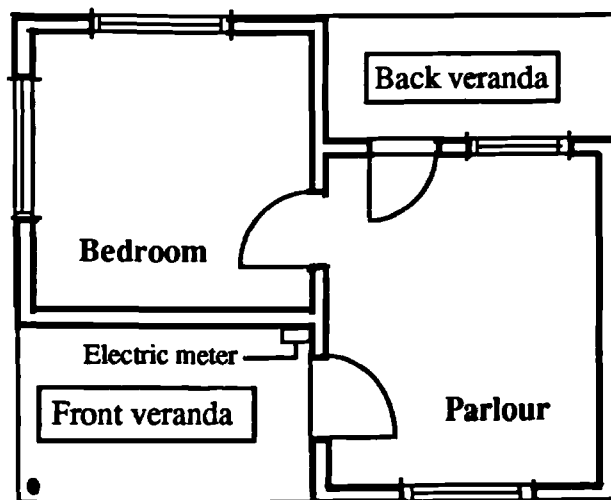
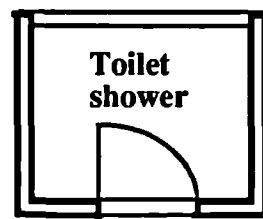
## DWELLING PR04 - SEMI-DETACHED

## Plan showing some improvements



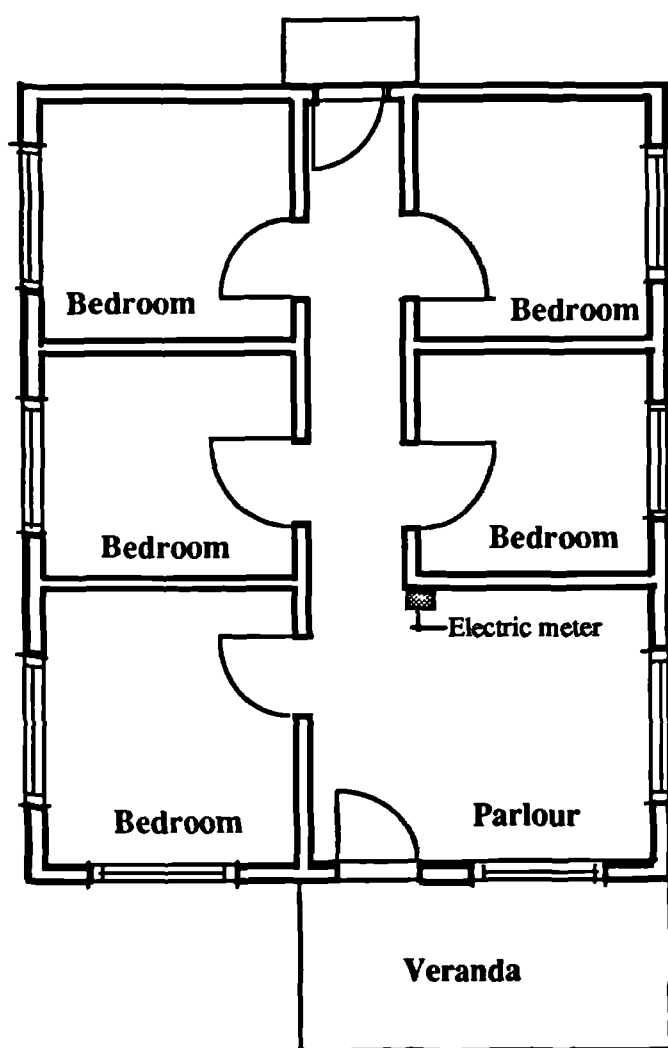
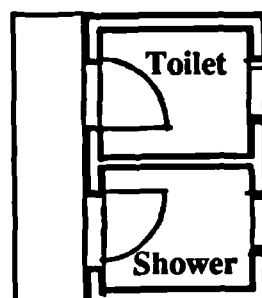
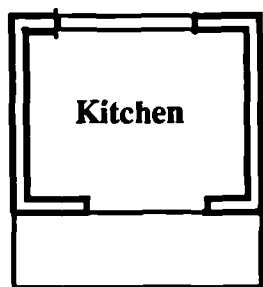
R O A D

APPENDIX 'C' CONT.  
DWELLING PR05 - DETACHED



## APPENDOX 'C' CONT.

## DWELLING PR06 - DETACHED



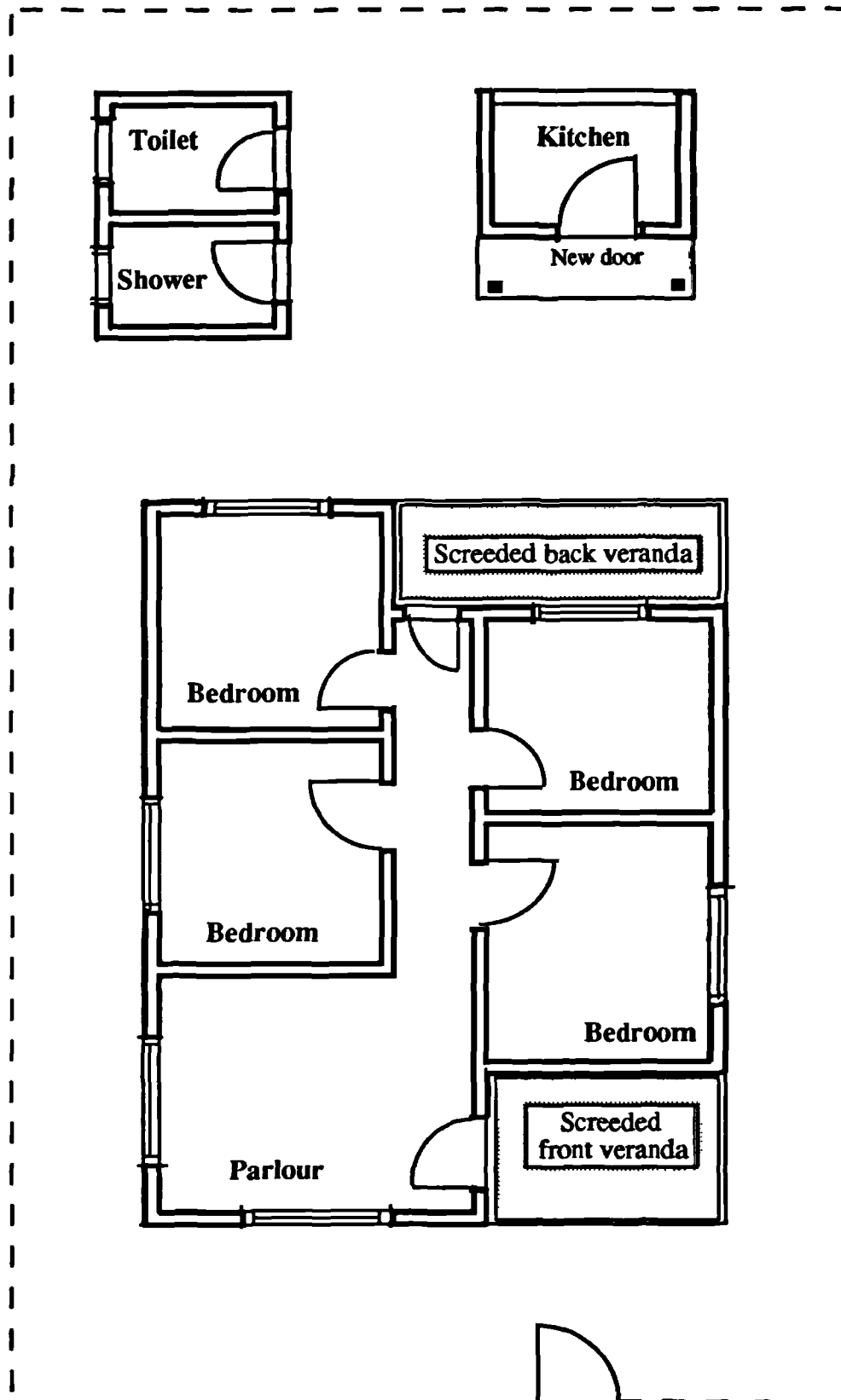
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R O A D



## APPENDIX 'C' CONT.

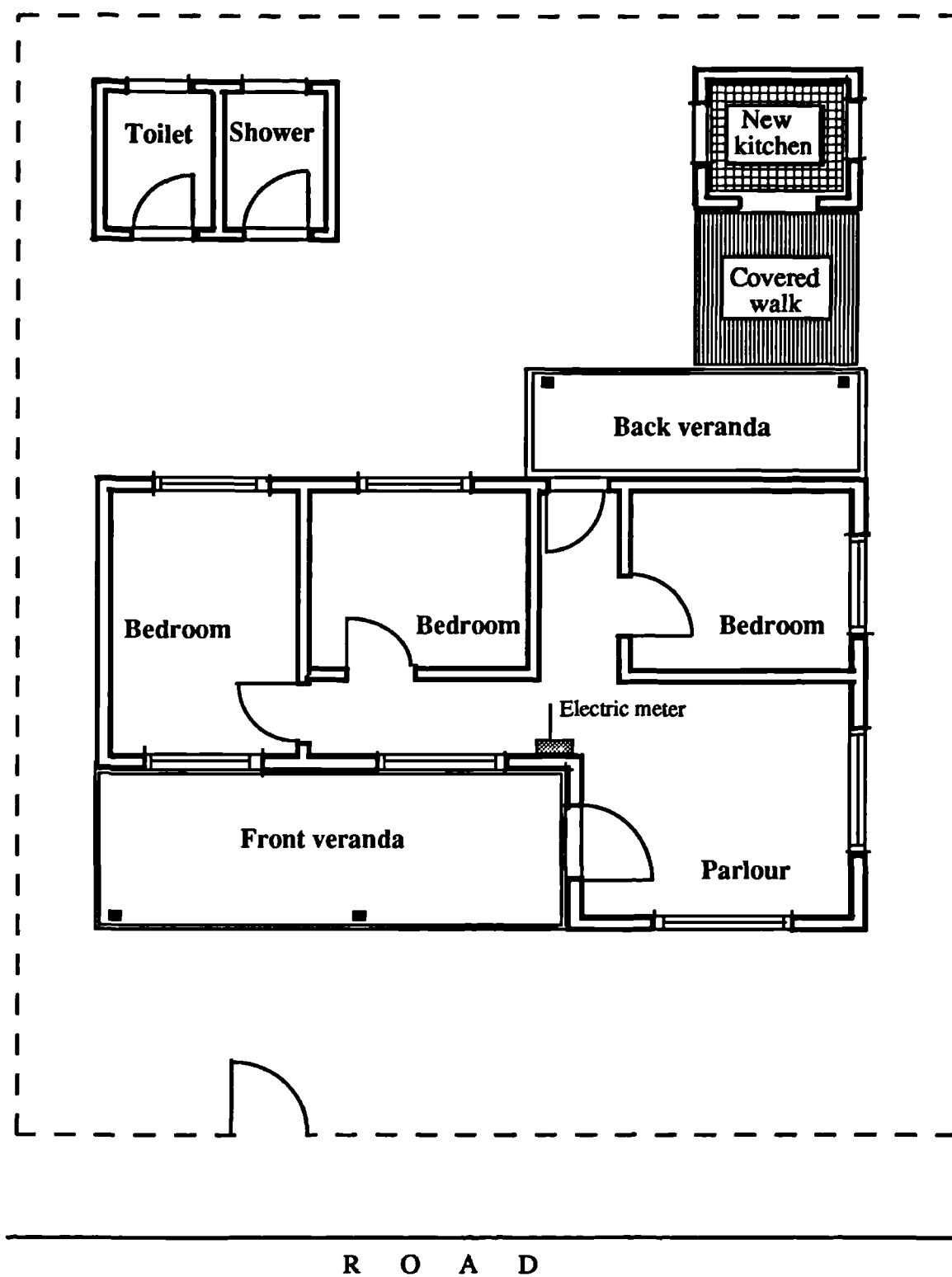
## DWELLING PR07 - DETACHED



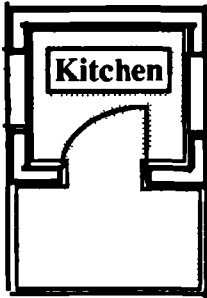
R O A D

## APPENDIX 'C' CONT.

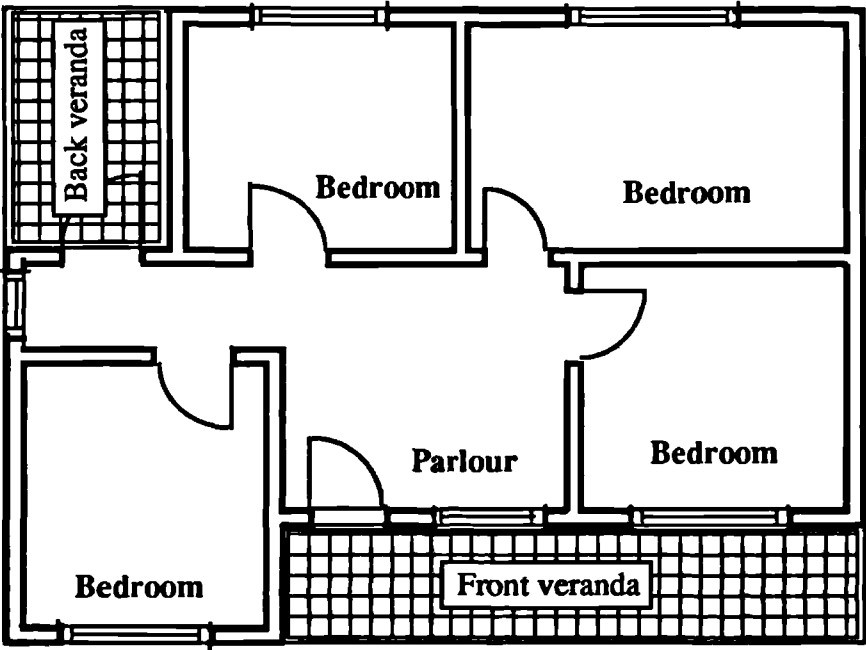
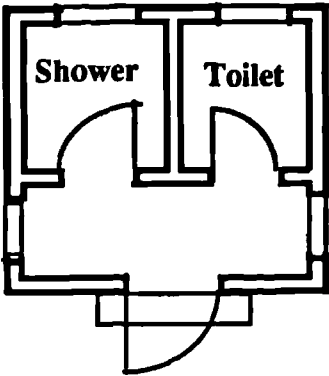
## DWELLING PR08 - DETACHED



APPENDIX 'C' CONT.  
DWELLING PR09 DETACHED



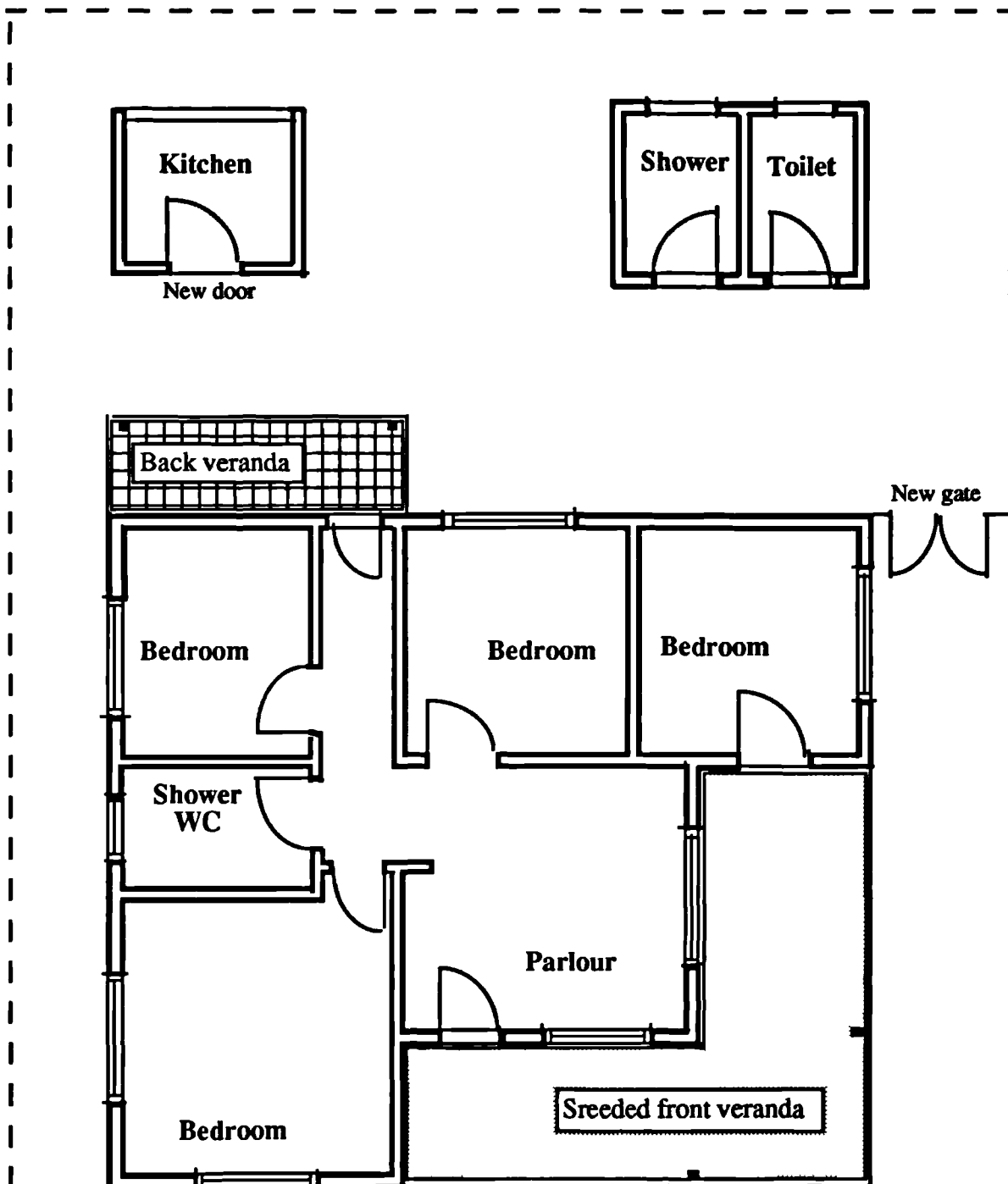
Kitchen floor screed over



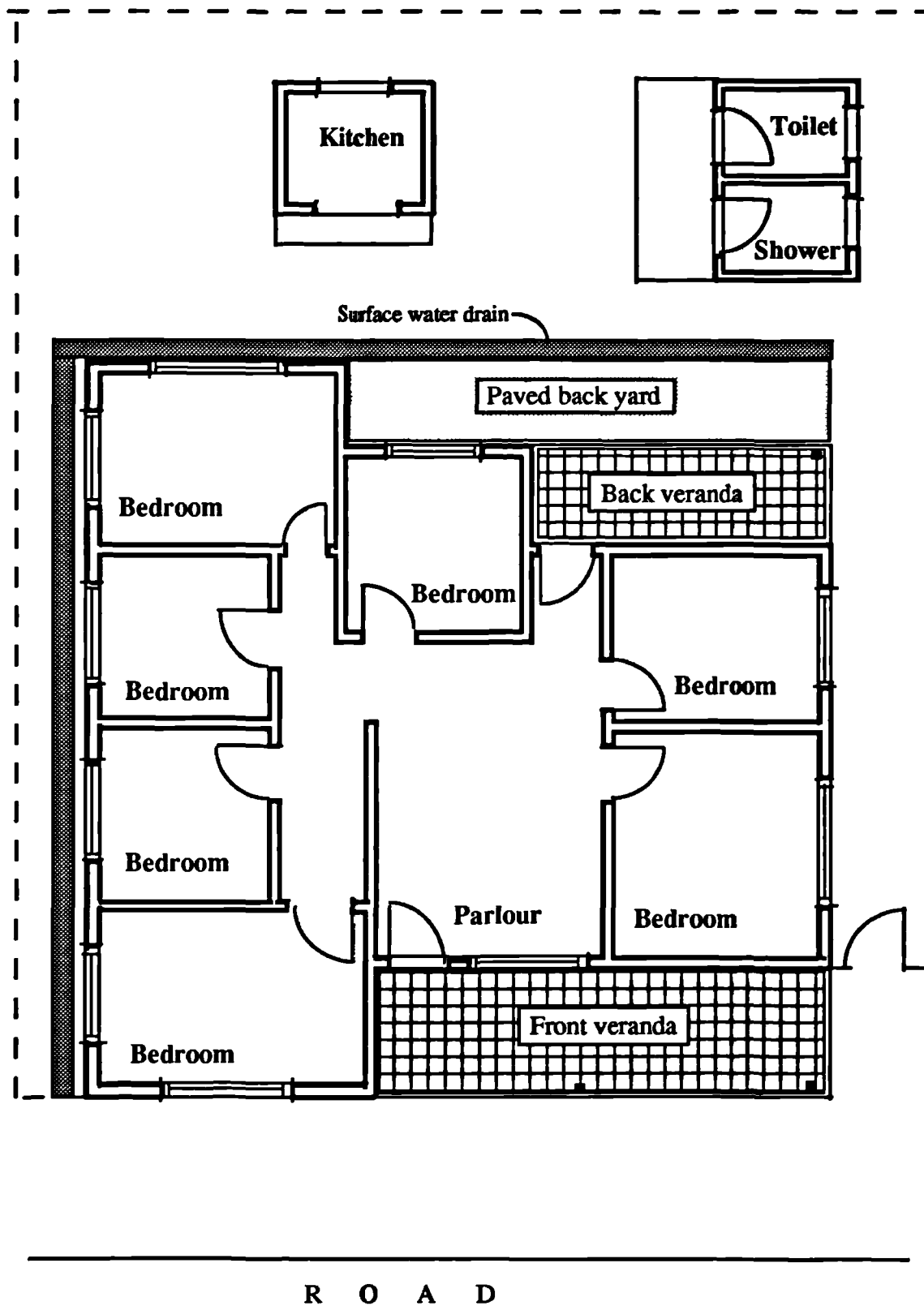
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R O A D

APPENDIX 'C' CONT.  
DWELLING PR10 - DETACHED

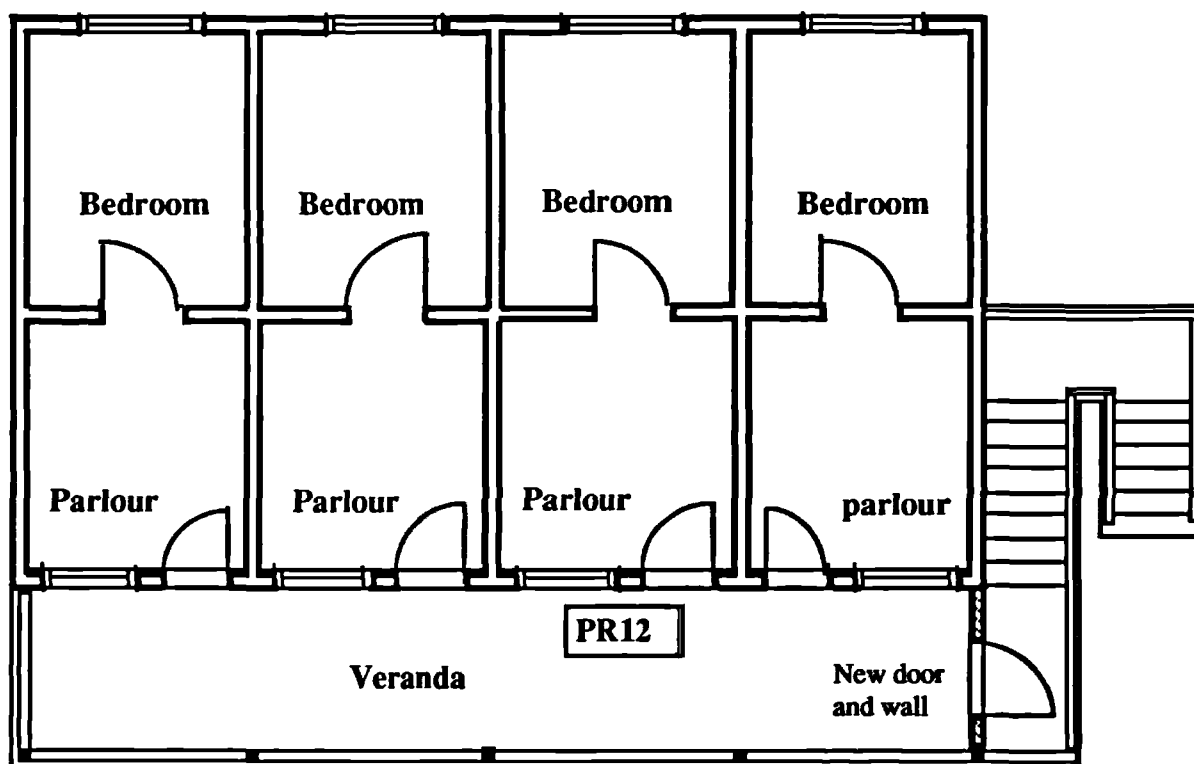
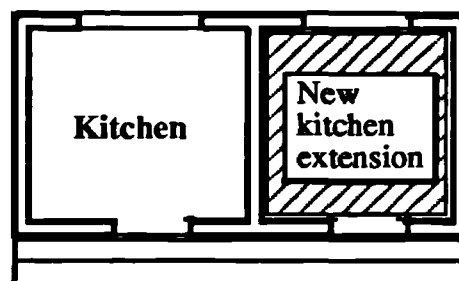
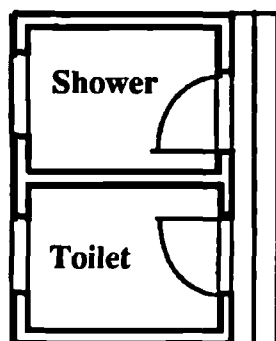


APPENDIX 'C' CONT.  
DWELLING PR11 - DETACHED

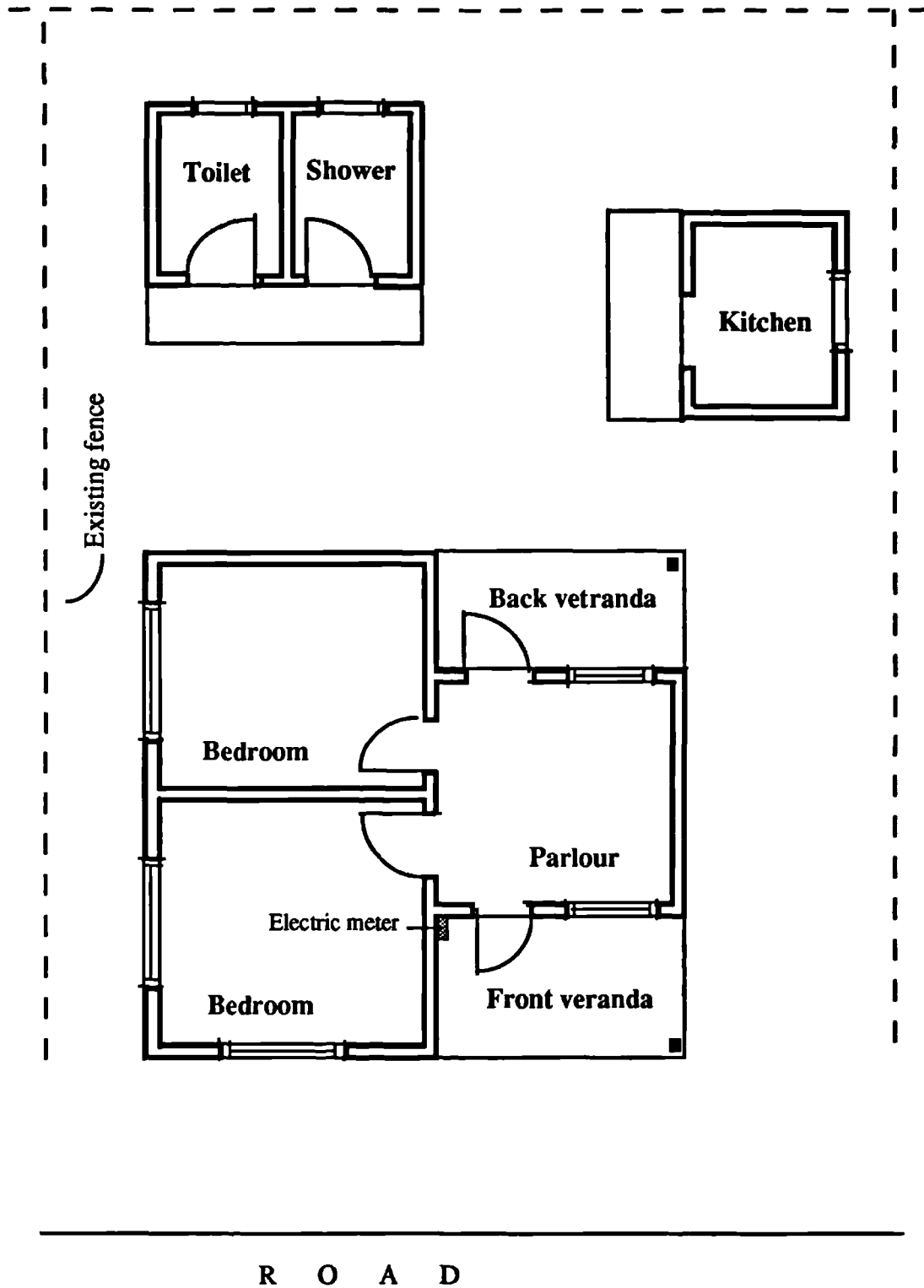


APPENDIX 'C' CONT.  
DWELLING PR12 - ADJOINING

New outdoor toilet

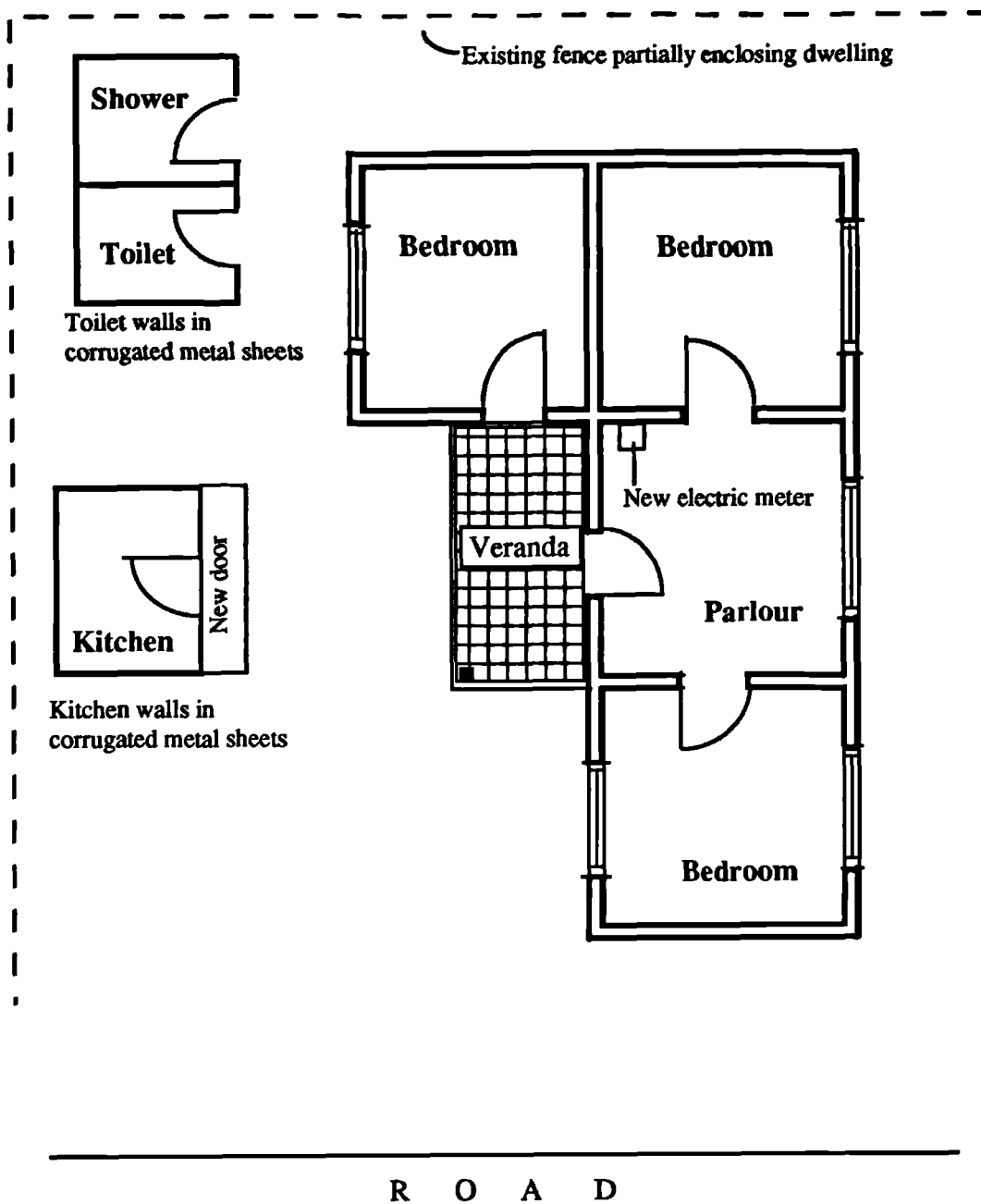


APPENDIX 'C' CONT.  
DWELLING PR13 - DETACHED



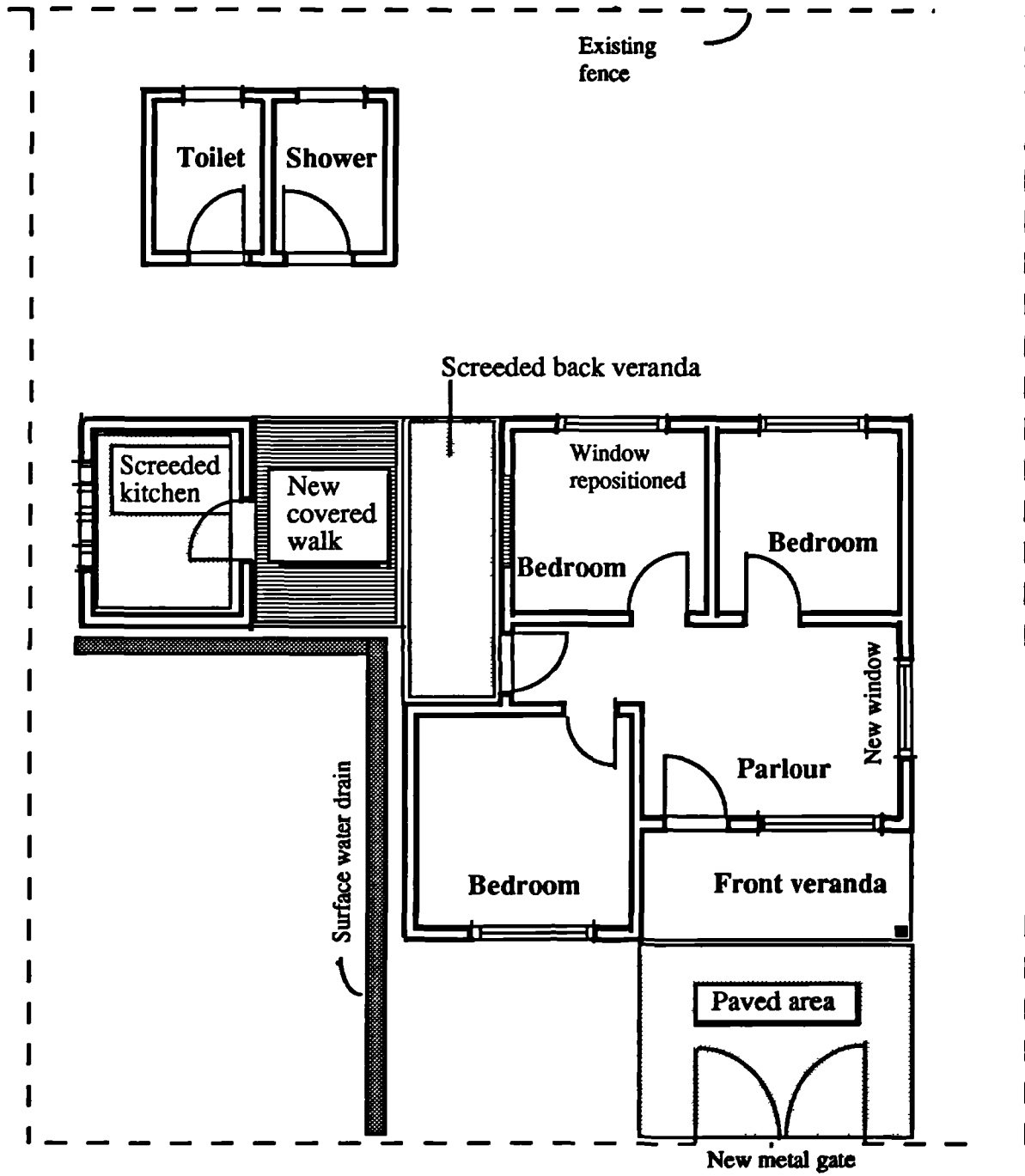
## APPENDIX 'C' CONT.

## DWELLING PR14 - DETACHED

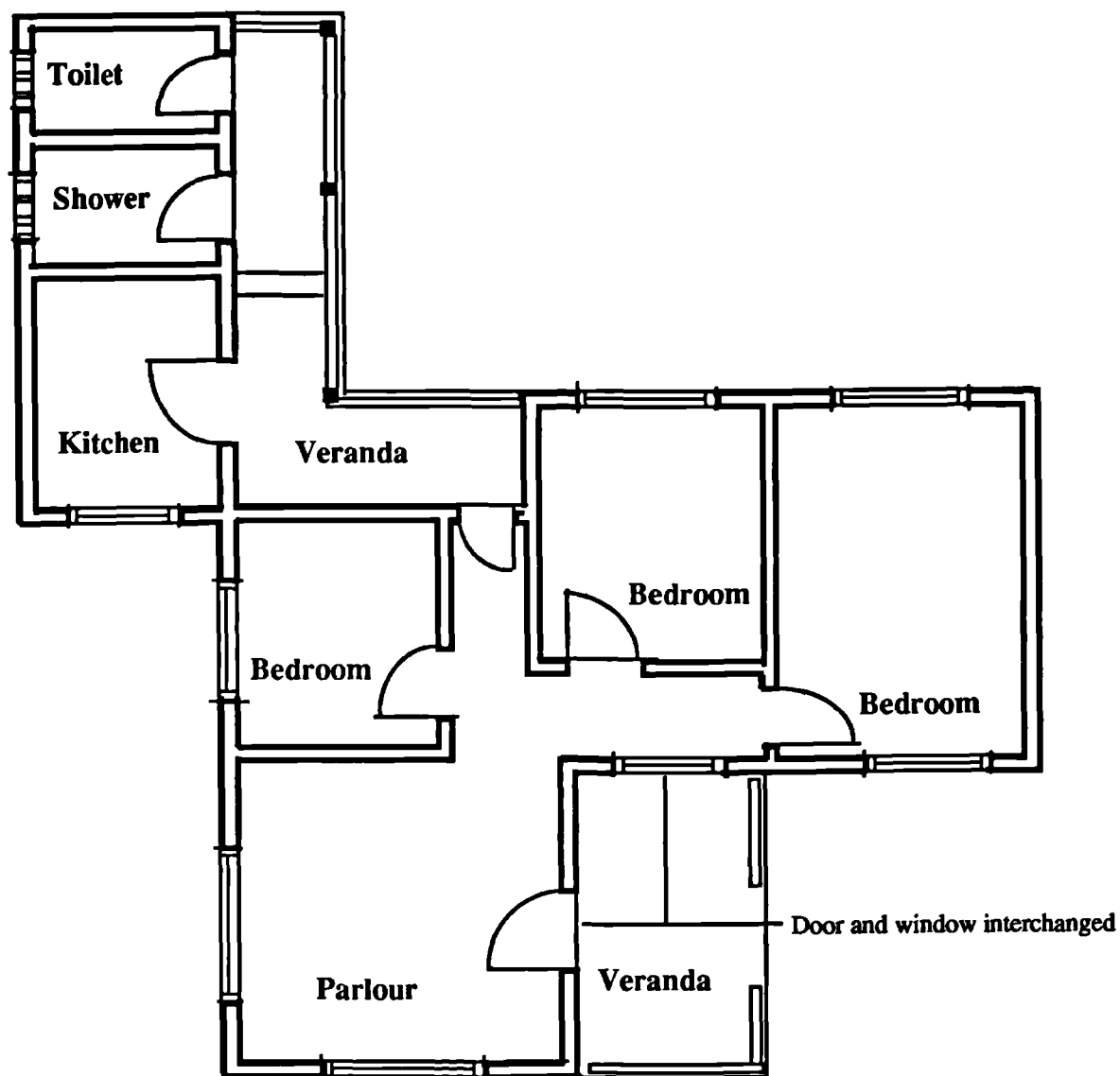




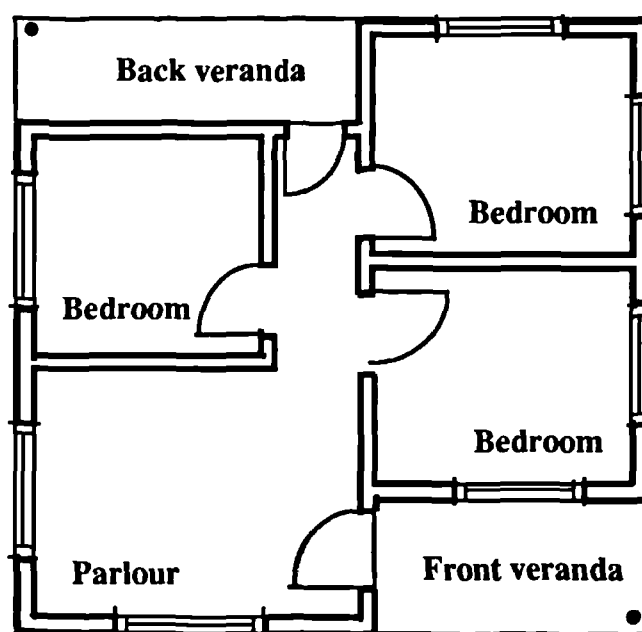
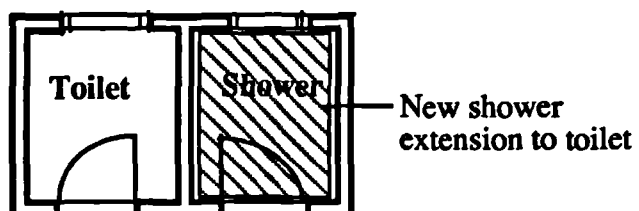
APPENDIX 'C' CONT.  
DWELLING PR15 - DETACHED



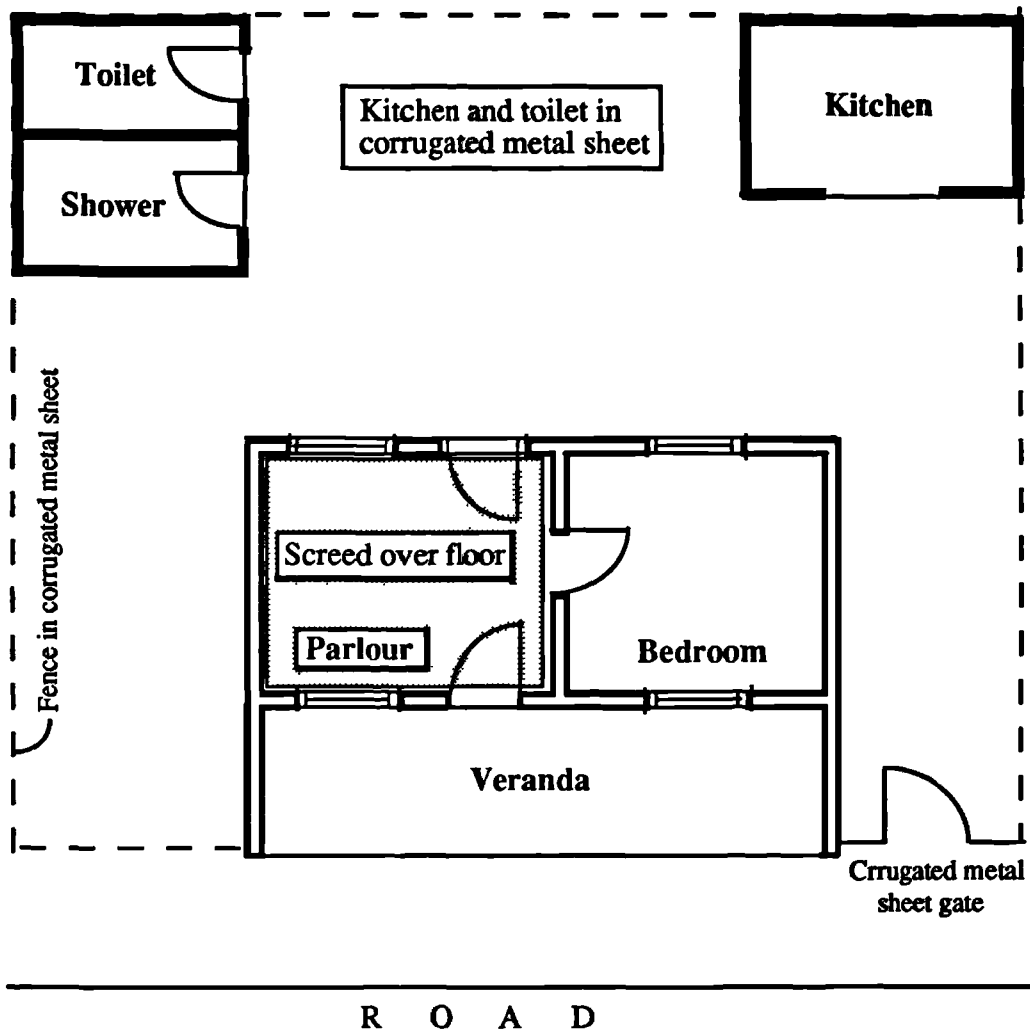
APPENDIX 'C' CONT.  
DWELLING PR16 - DETACHED



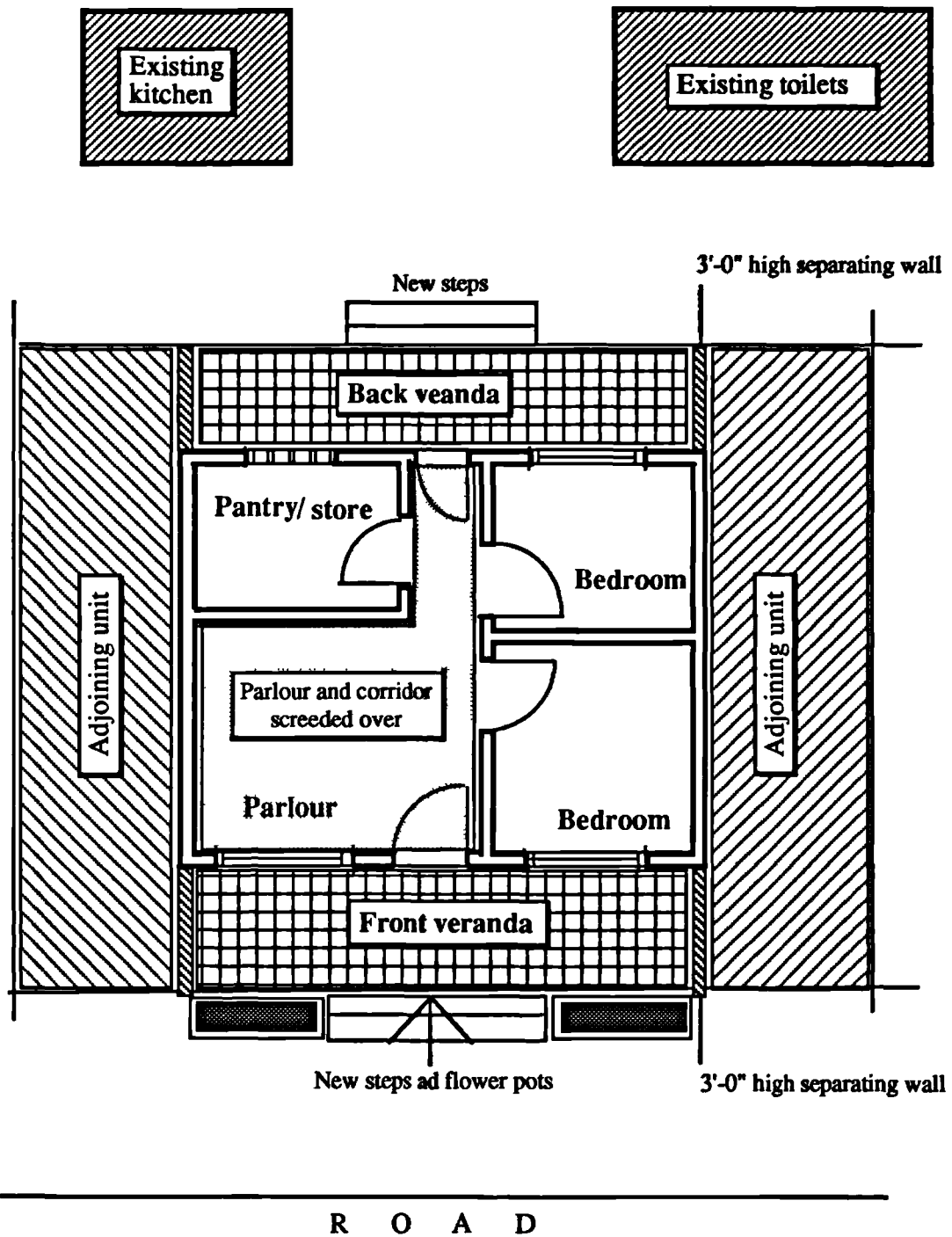
APPENDIX 'C' CONT.  
DWELLING PR17 - DETACHED



APPENDIX 'C' CONT.  
DWELLING PR18 - DETACHED

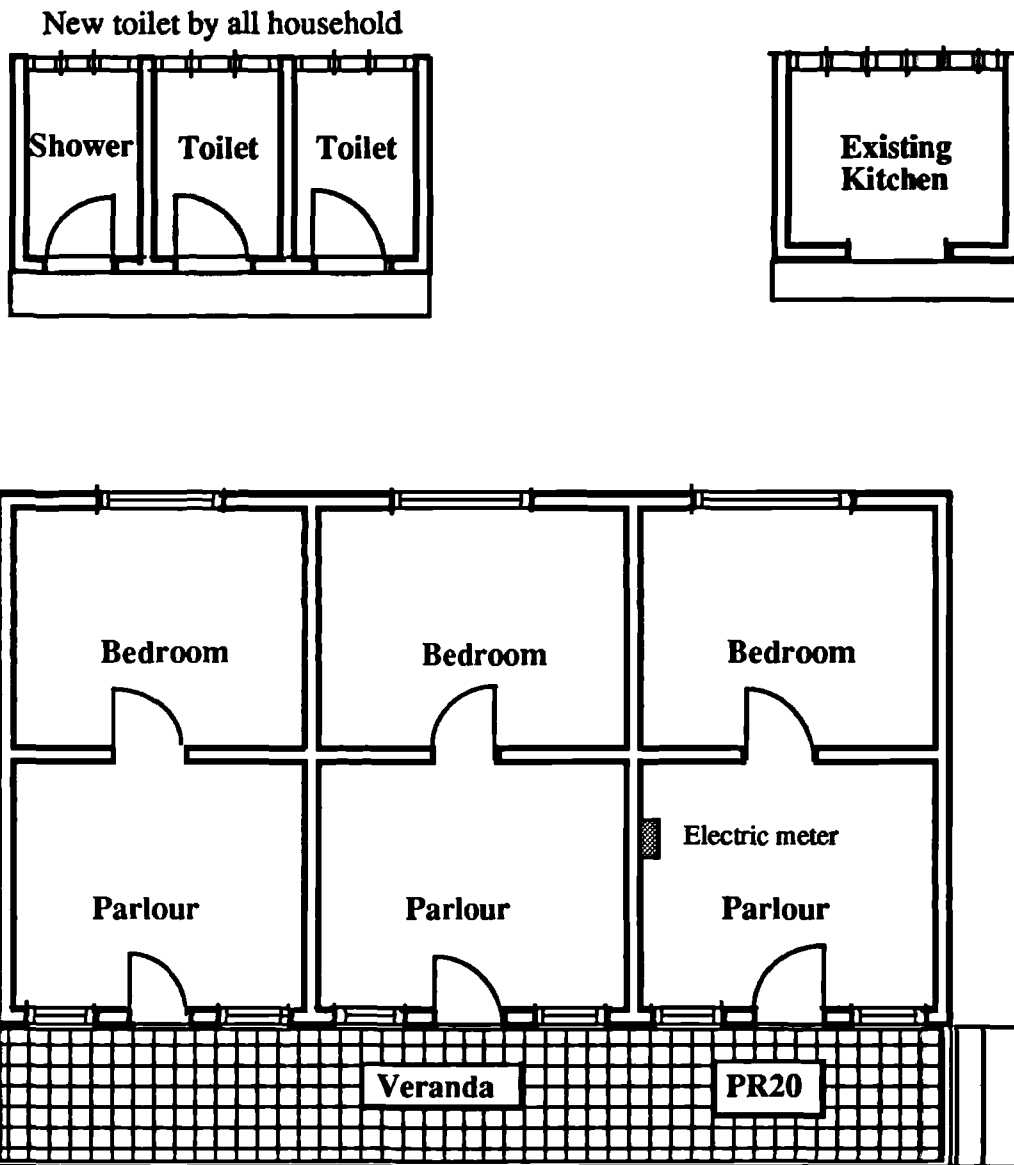


APPENDIX 'C' CONT.  
 DWELLING PR19 - ADJOINING



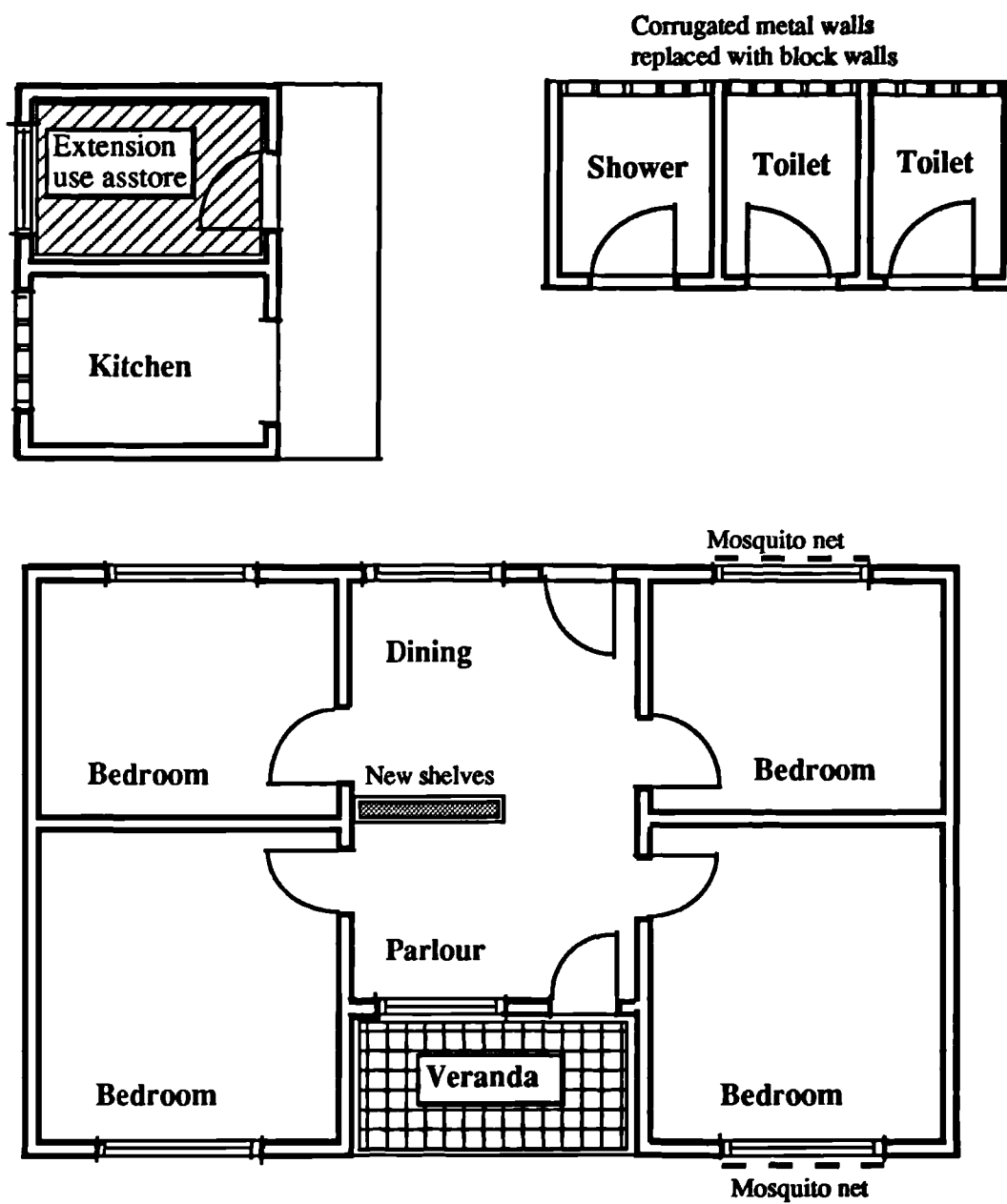
## APPENDIX 'C' CONT.

## DWELLING PR20 - ADJOINING



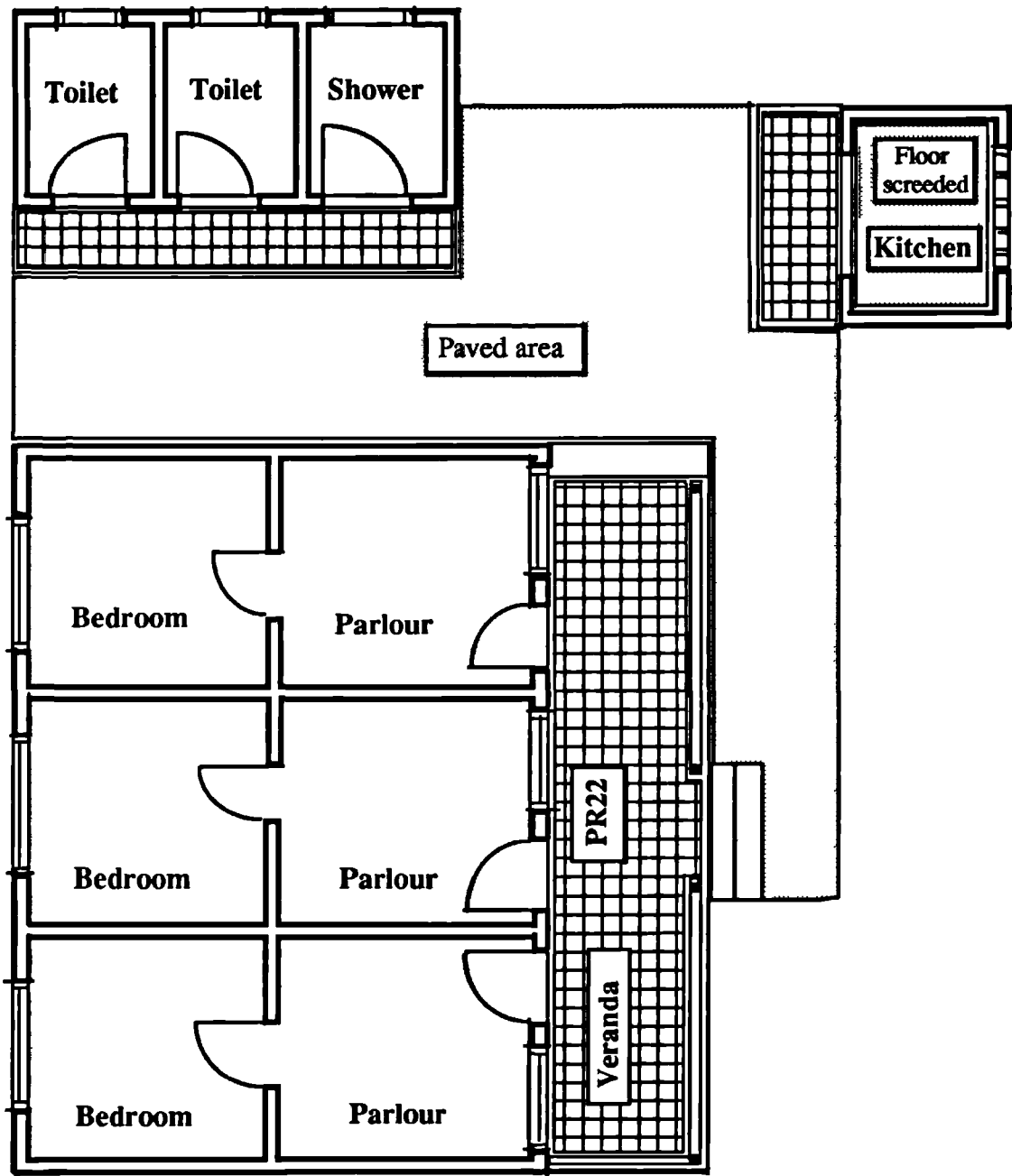
## APPENDIX 'C' CONT.

## DWELLING PR21 - DETACHED



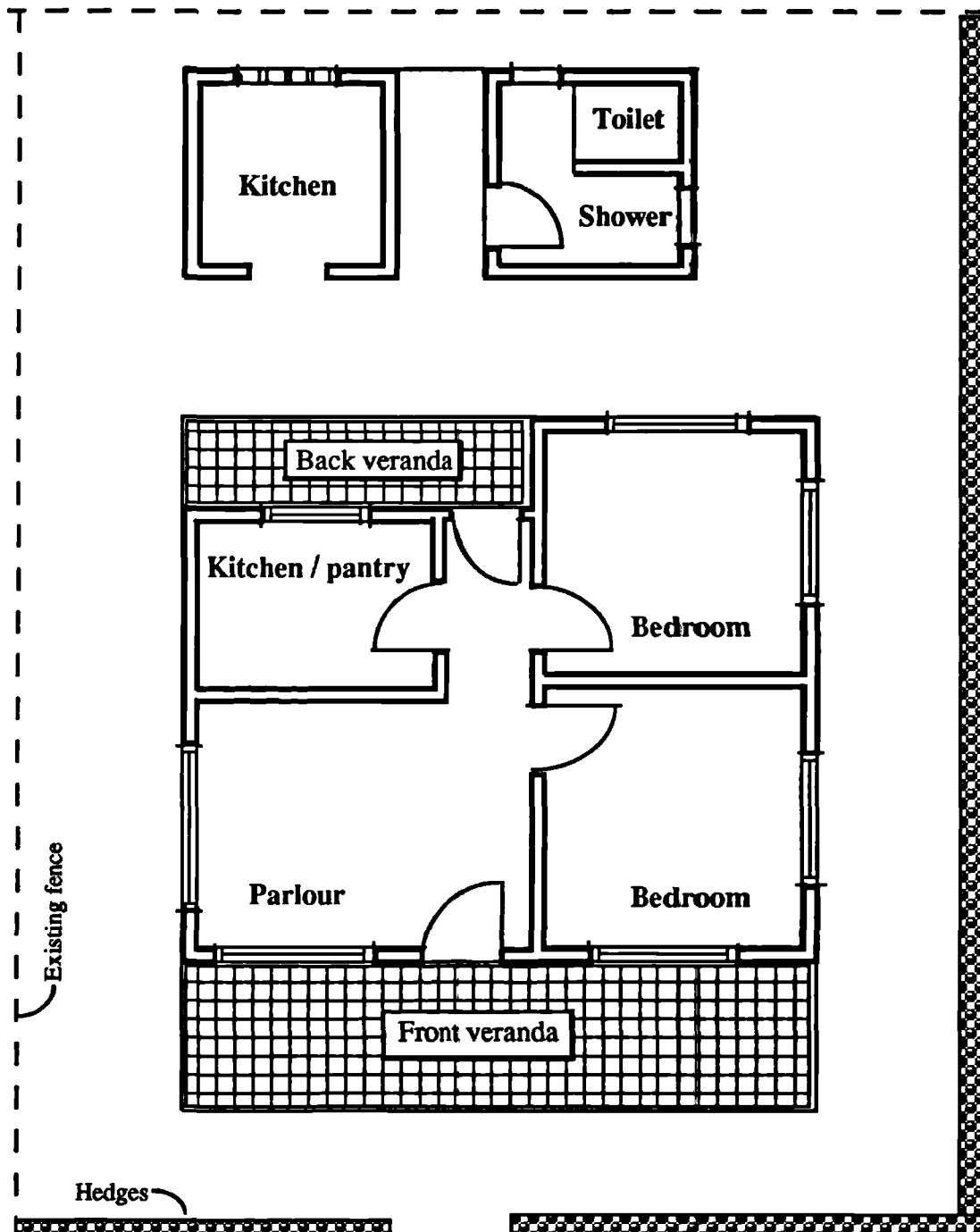
APPENDIX 'C' CONT.

DWELLING PR22 - ADJOINING



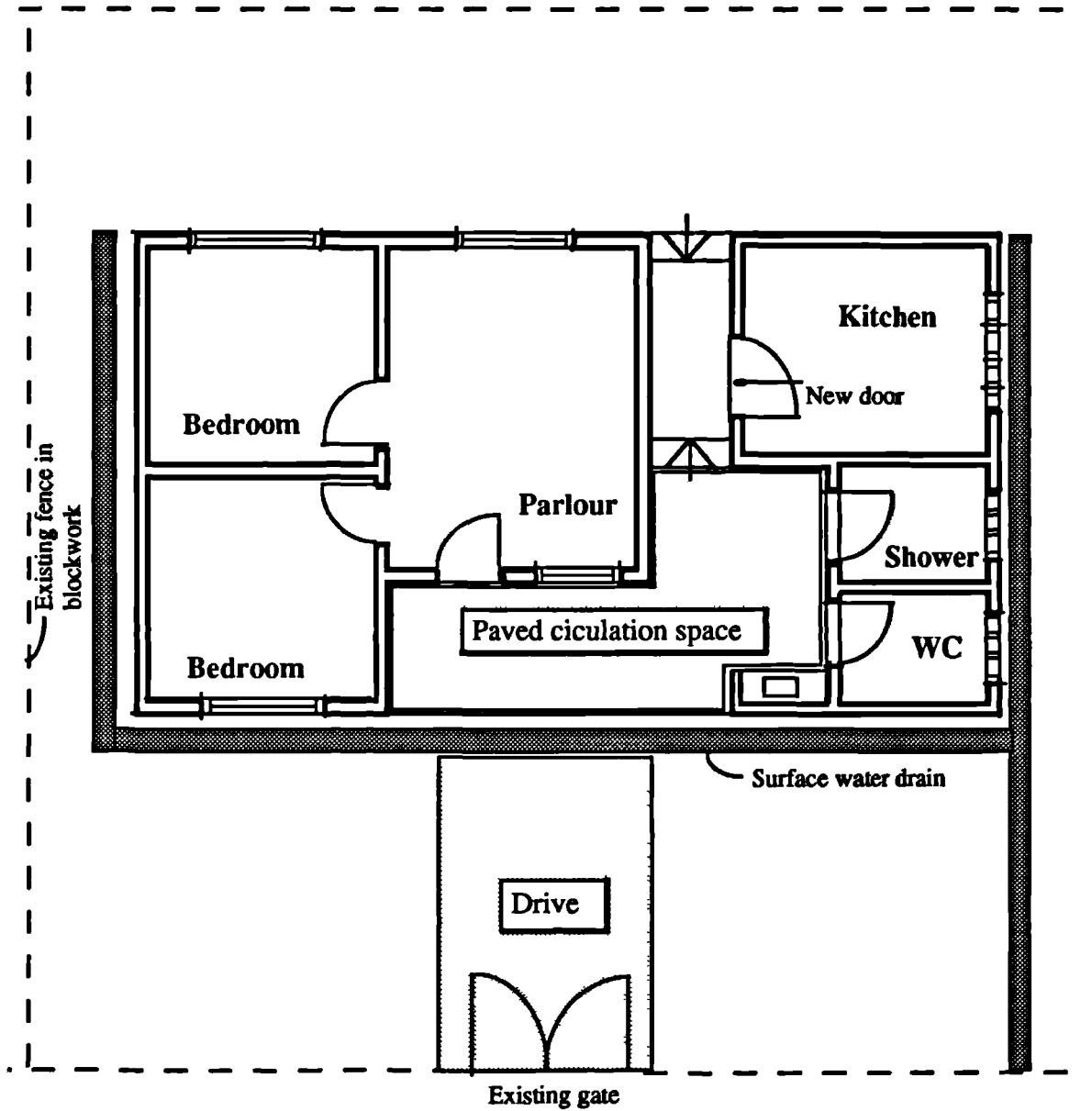


APPENDIX 'C' CONT.  
DWELLING PR23 - DETACHED



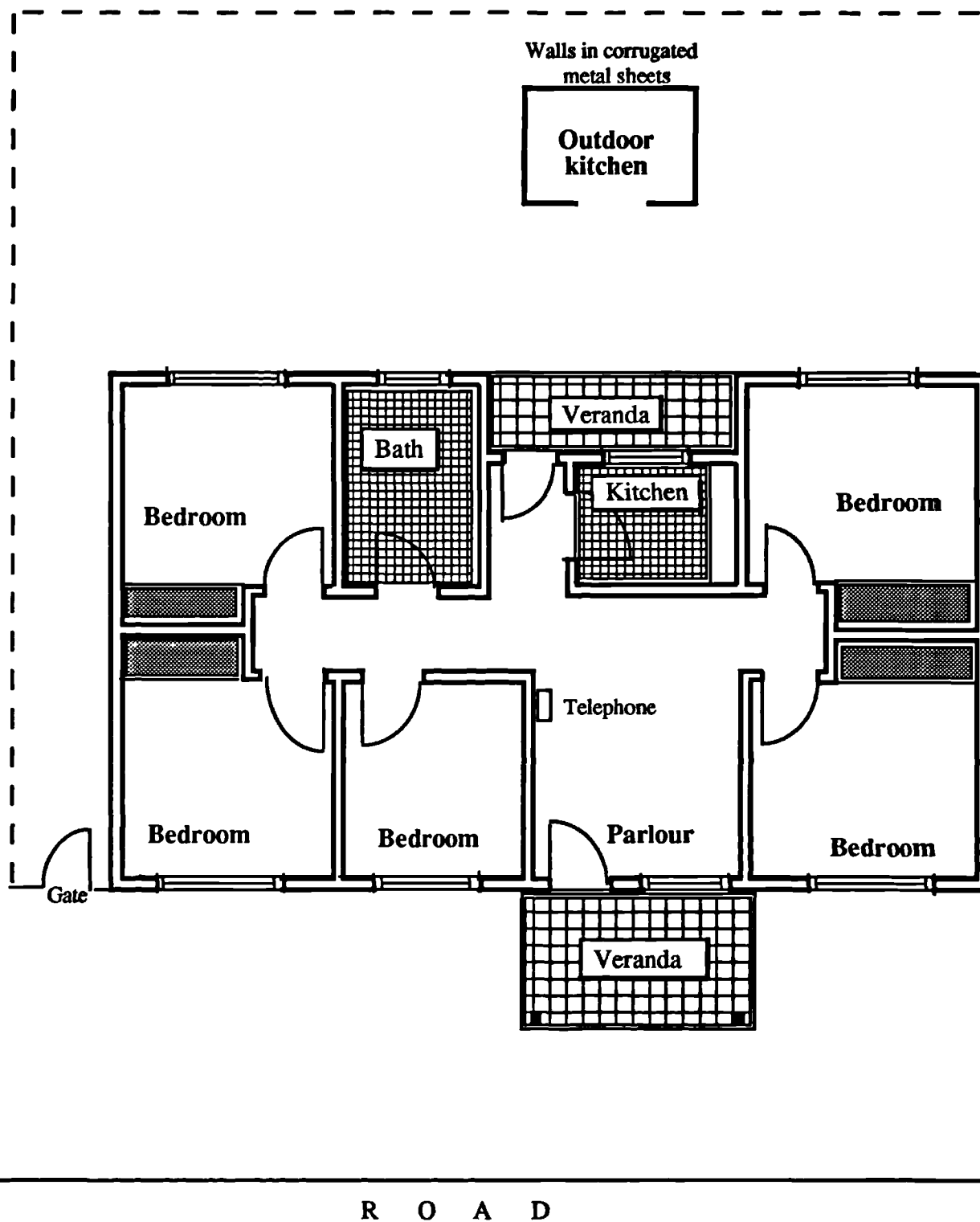
R O A D

APPENDIX 'C' CONT.  
DWELLING PR24 - DETACHED



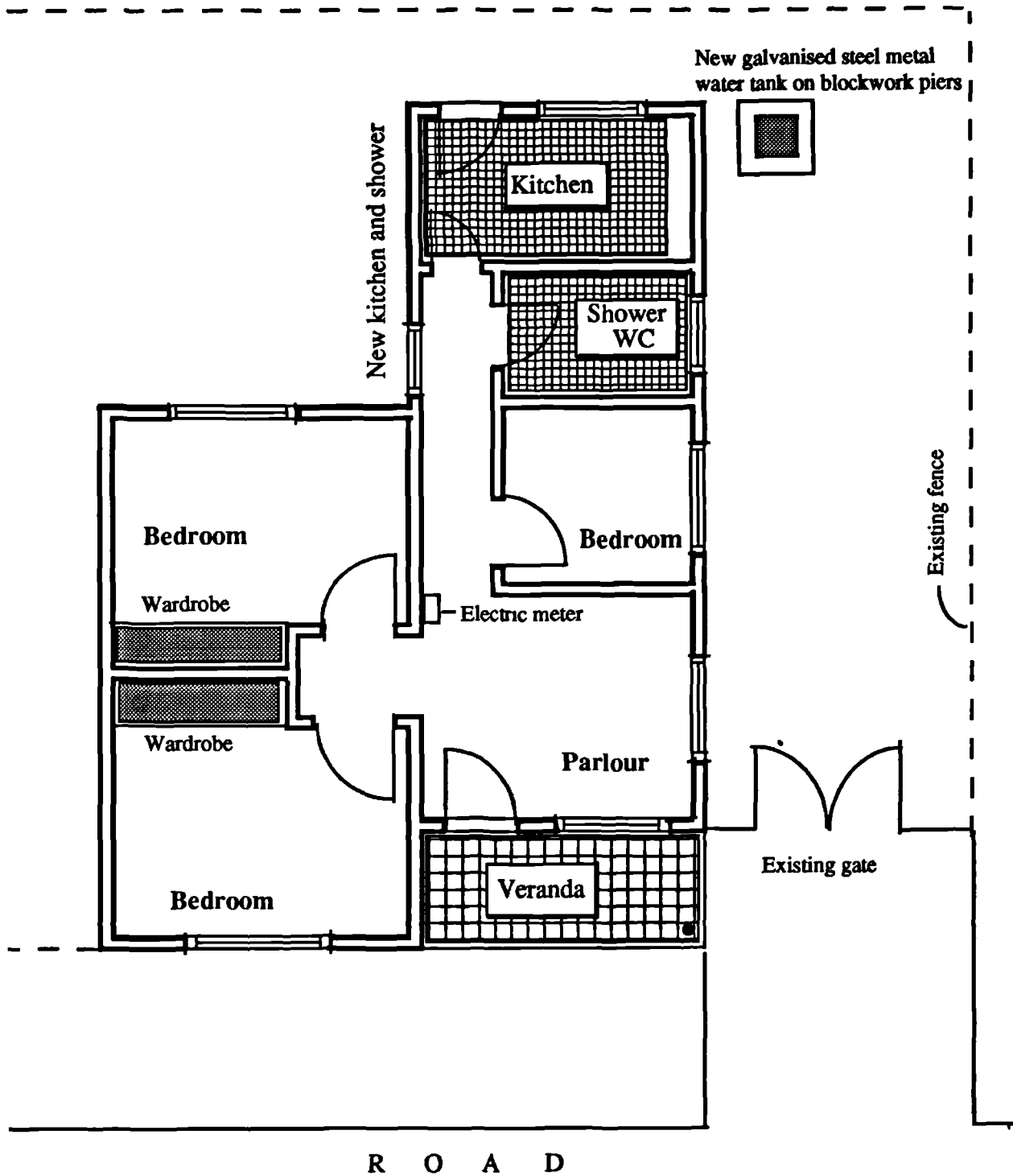
## APPENDIX 'C' CONT.

## DWELLING PR25 - DETACHED



## APPENDIX 'C' CONT.

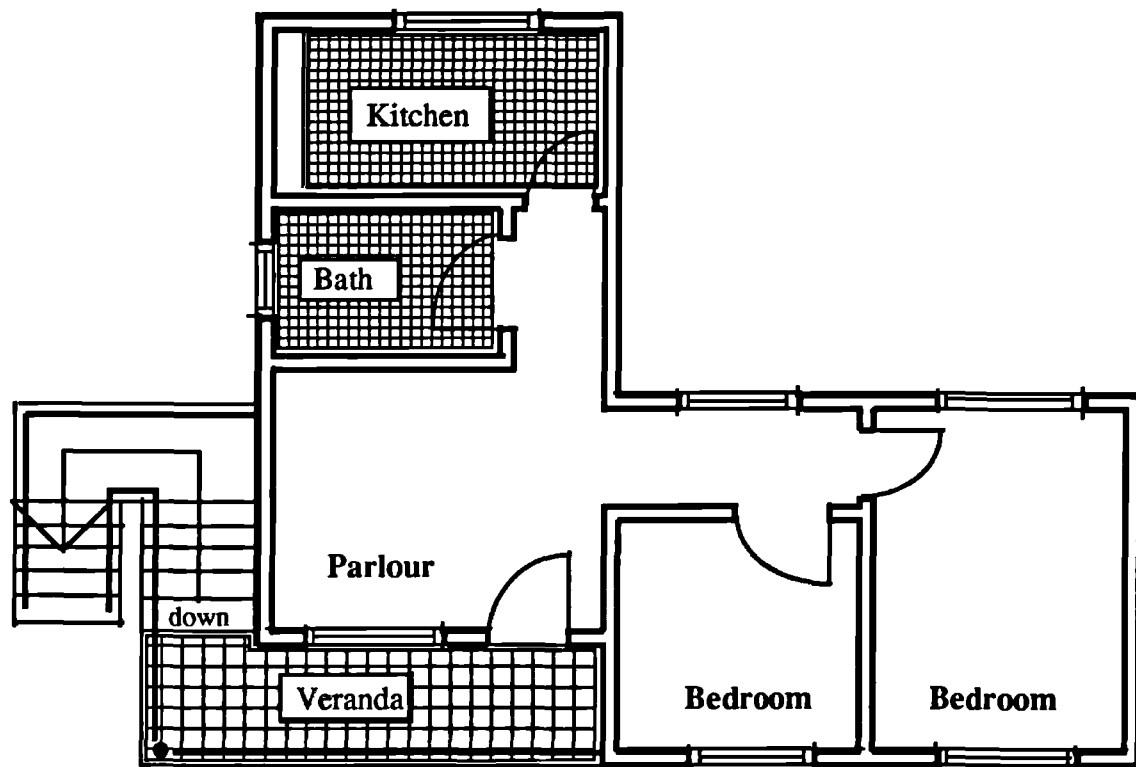
## DWELLING PR26 - DETACHED



## APPENDIX 'C' CONT.

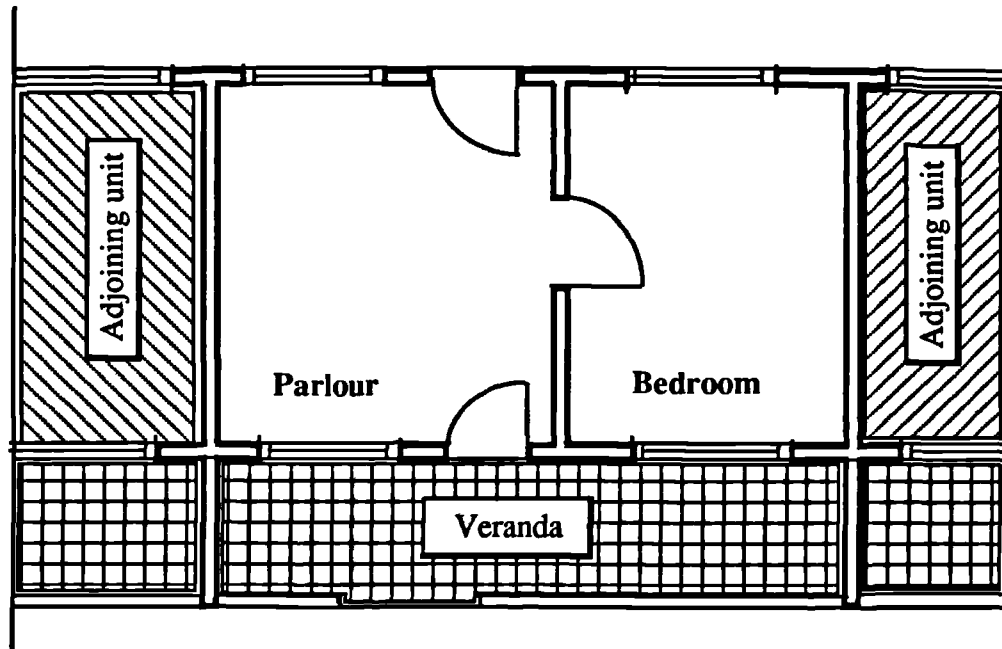
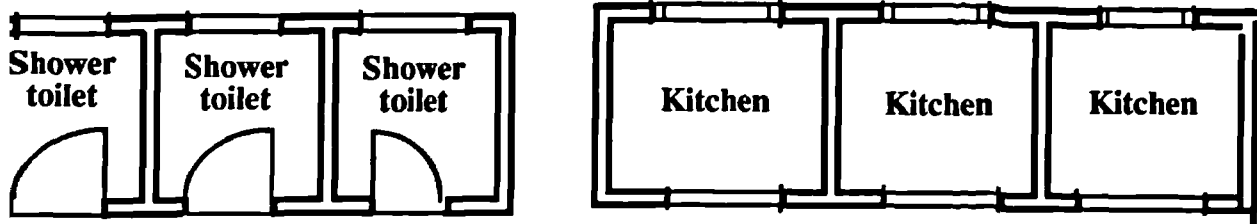
## DWELLING PR27 - FIRST FLOOR FLAT

Walls in corrugated  
metal sheets



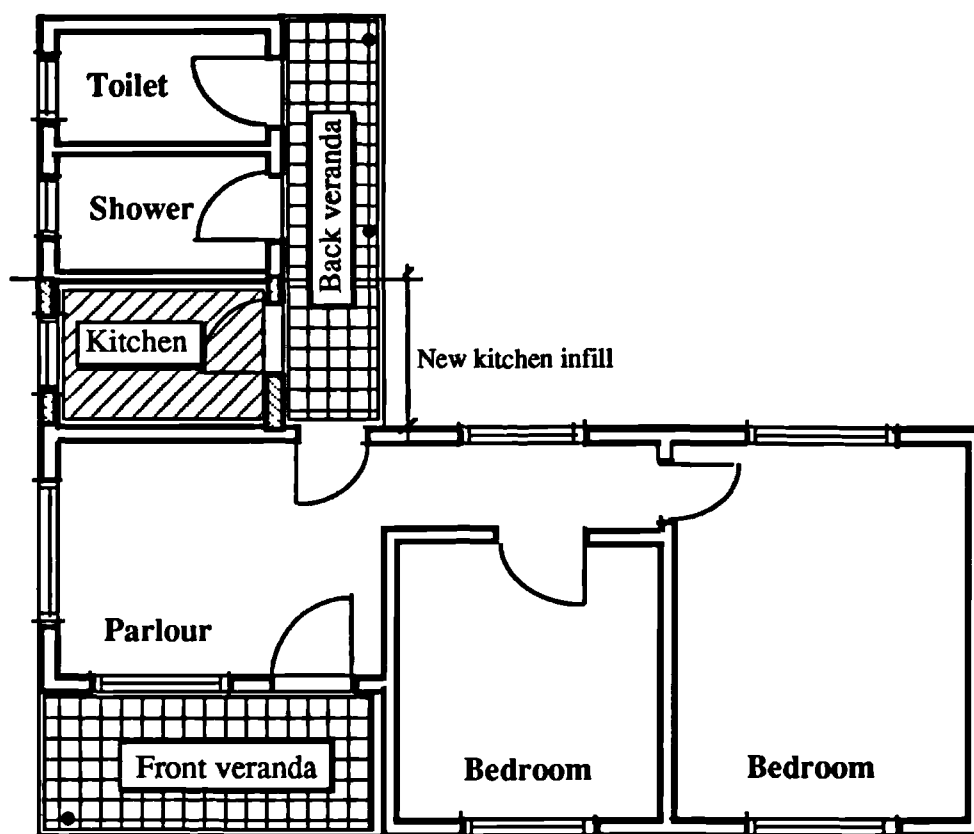
## APPENDIX 'C' CONT.

## DWELLING PR28 - ADJOINING



## APPENDIX 'C' CONT.

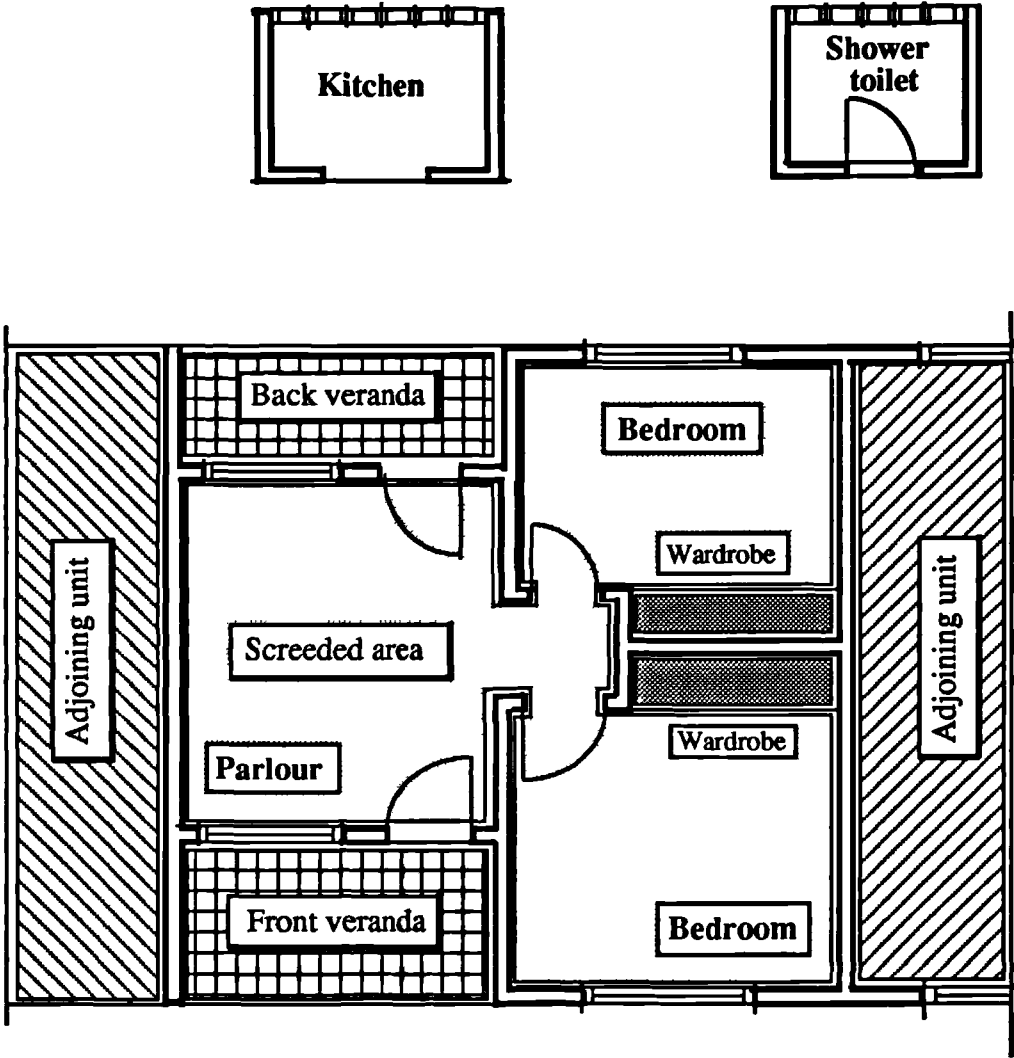
## DWELLING PR29 - DETACHED



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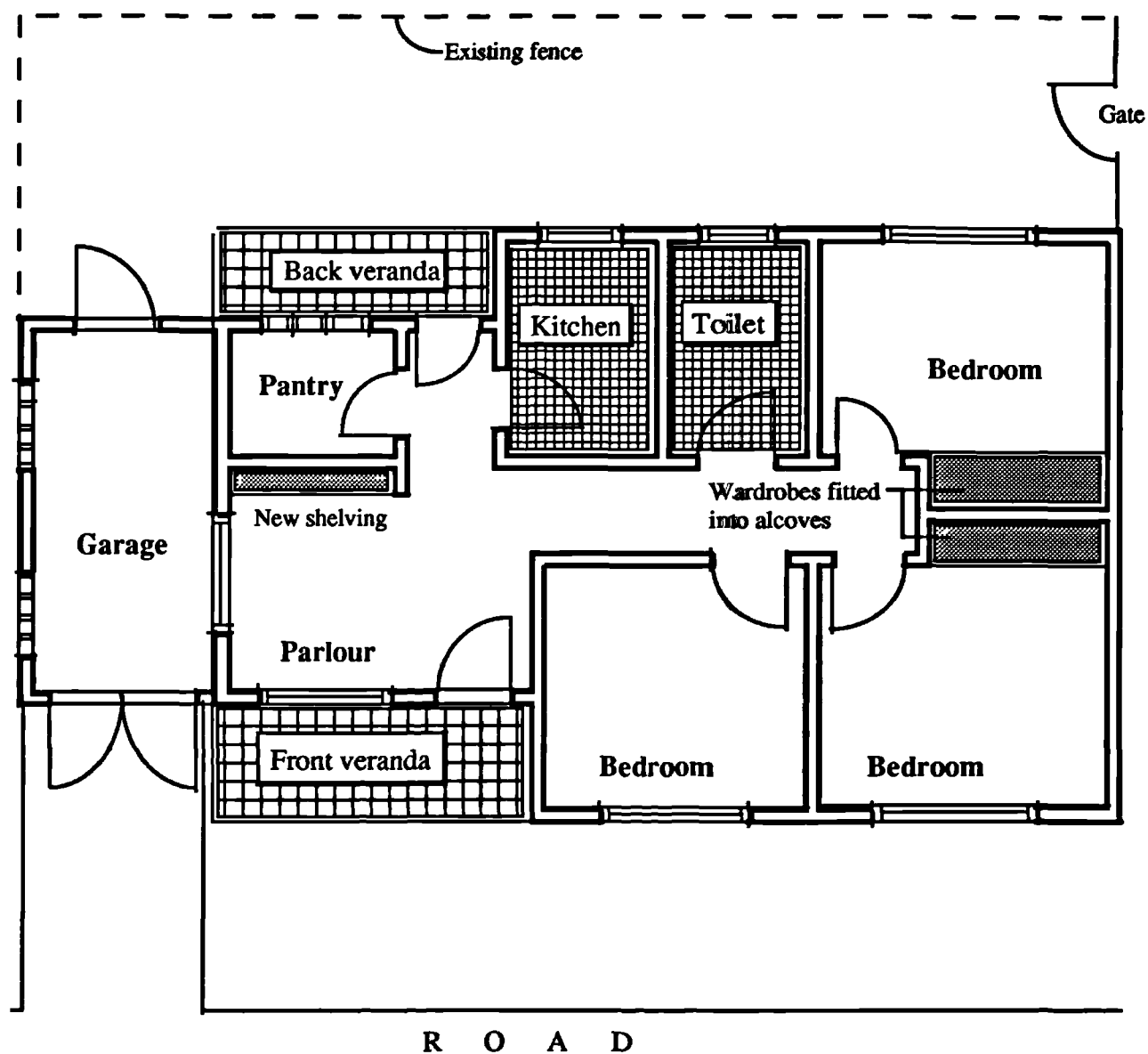
R O A D

APPENDIX 'C' CONT.  
DWELLING PR30 - ADJOINING

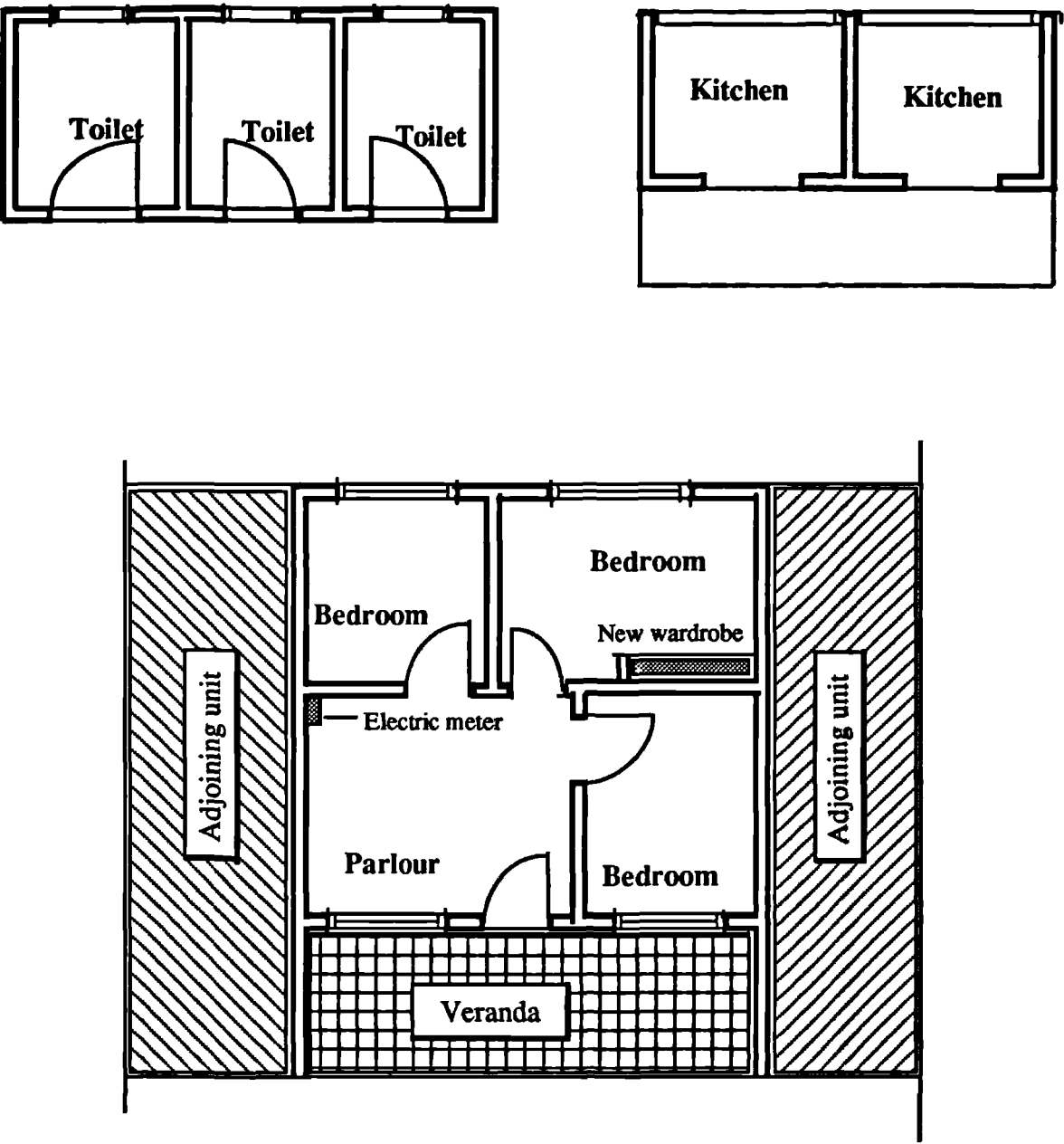




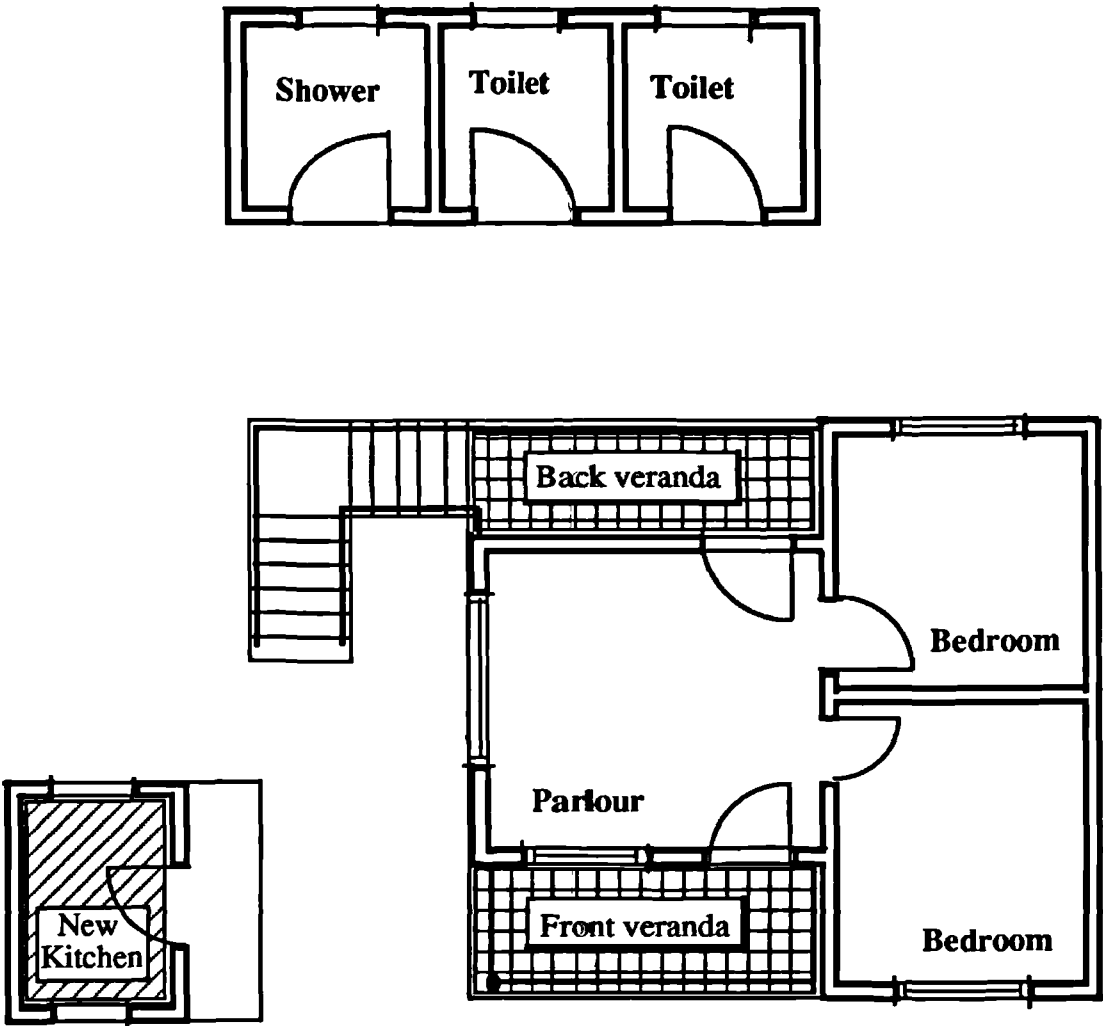
APPENDIX 'C' CONT.  
DWELLING PR31 - DETACHED



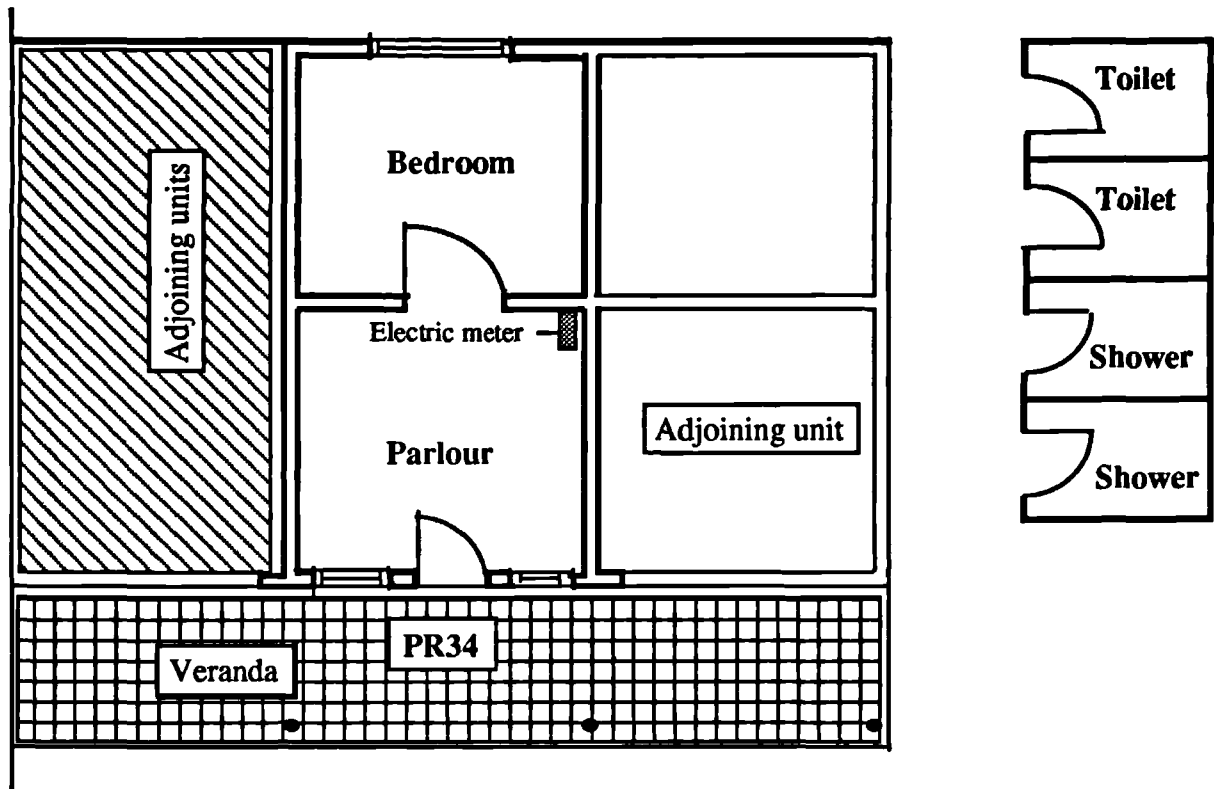
APPENDIX 'C' CONT.  
DWELLING PR32 - ADJOINING



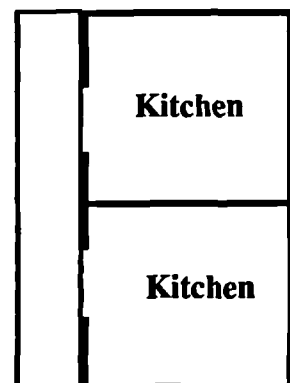
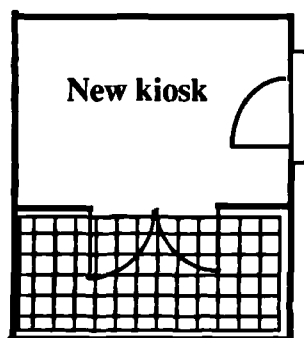
APPENDIX 'C' CONT.  
DWELLING PR33 - FIRST FLOOR FLAT



APPENDIX 'C' CONT.  
DWELLING PR34 - ADJOINING



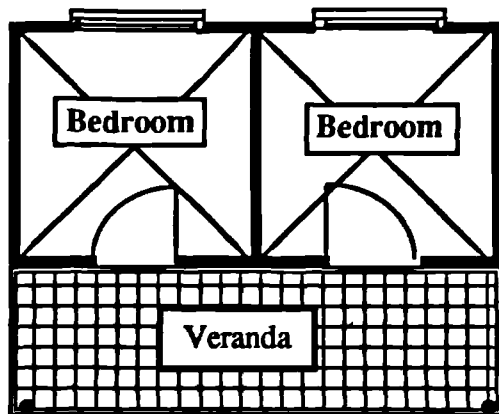
Walls in corrugated metal sheets



R O A D

## APPENDIX 'C' CONT.

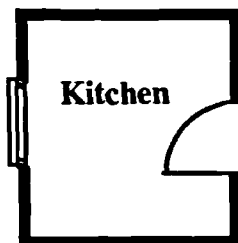
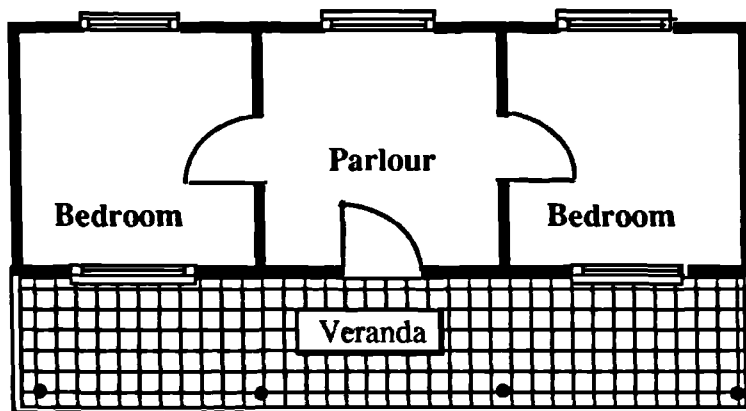
## DWELLINGS PR35 &amp; PR36



New ceiling in both bedrooms

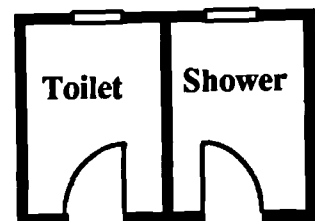
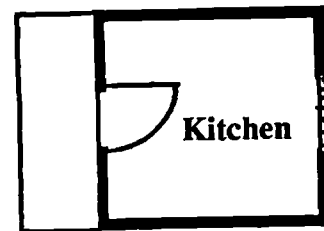
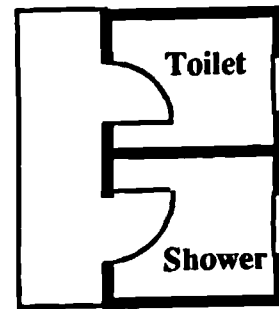
All walls in corrugated  
metal sheets

**DWELLING PO35 - TEMPORARY / PANBODY**



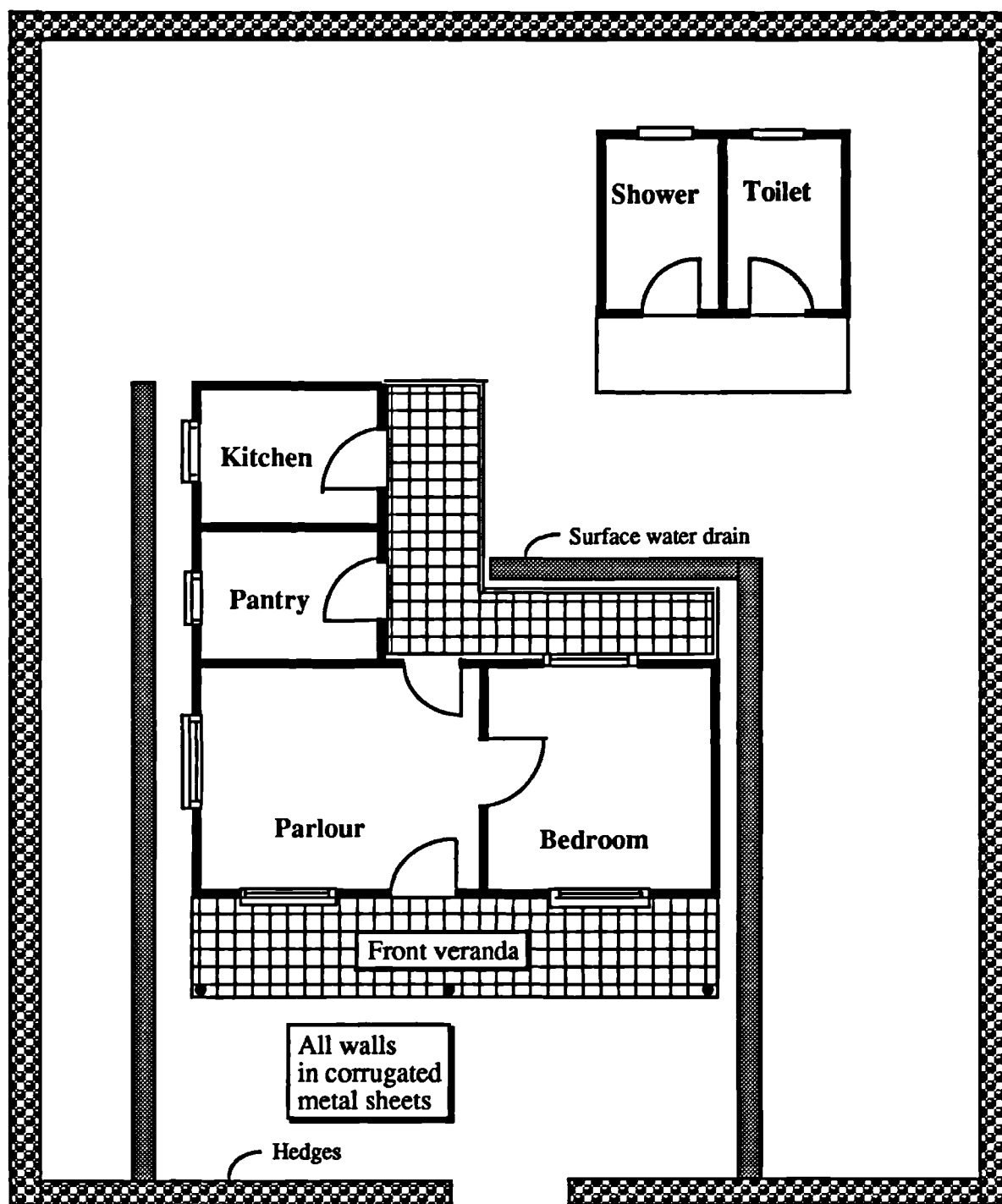
All walls in corrugated  
metal sheets

**DWELLING PR36 - TEMPORARY / PANBODY**

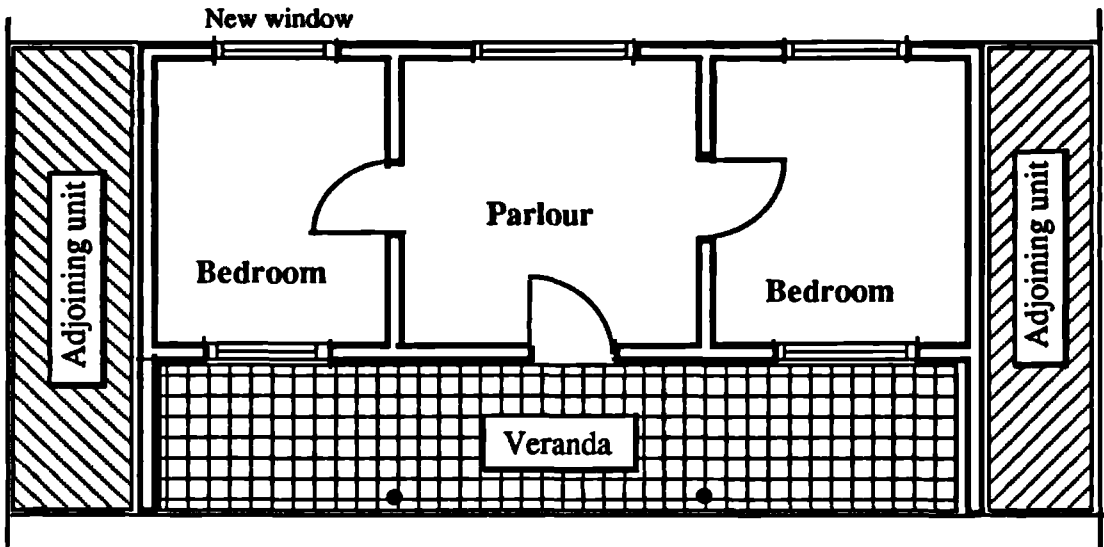


## APPENDIX 'C' CONT.

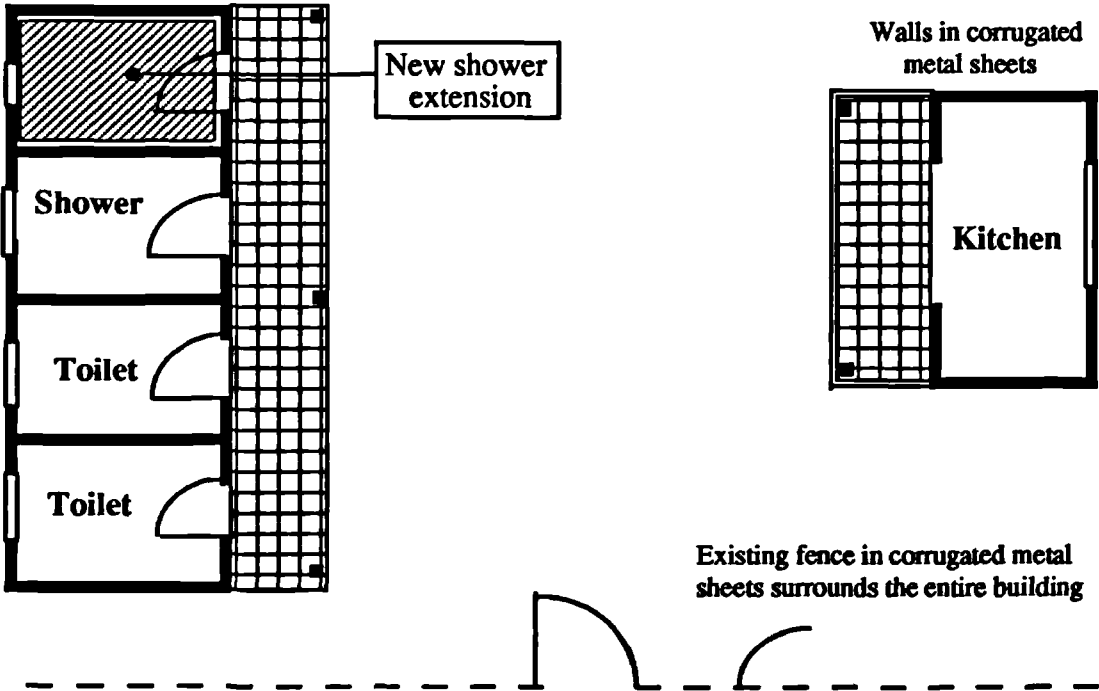
## DWELLING PR37 - TEMPORARY / PANBODY



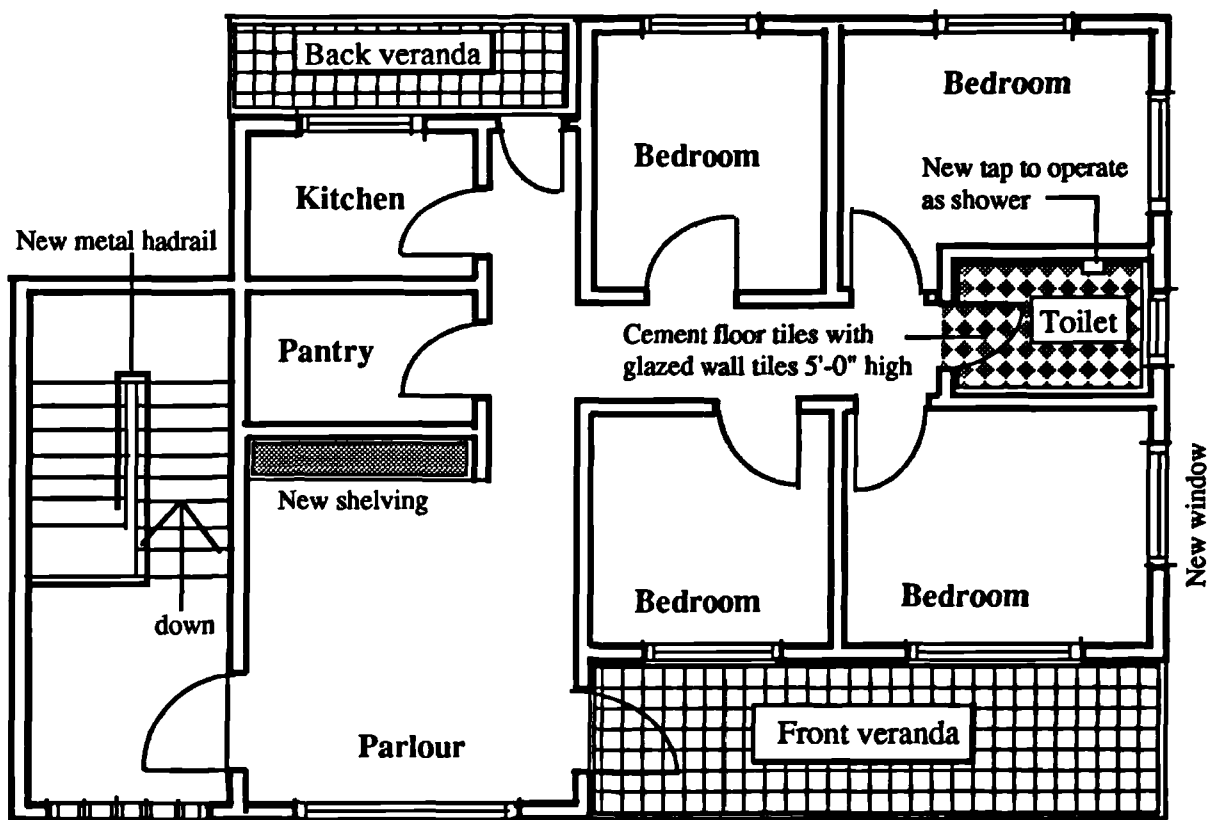
APPENDIX 'C' CONT.  
DWELLING PR38 - ADJOINING



alls in corrugated metal sheets

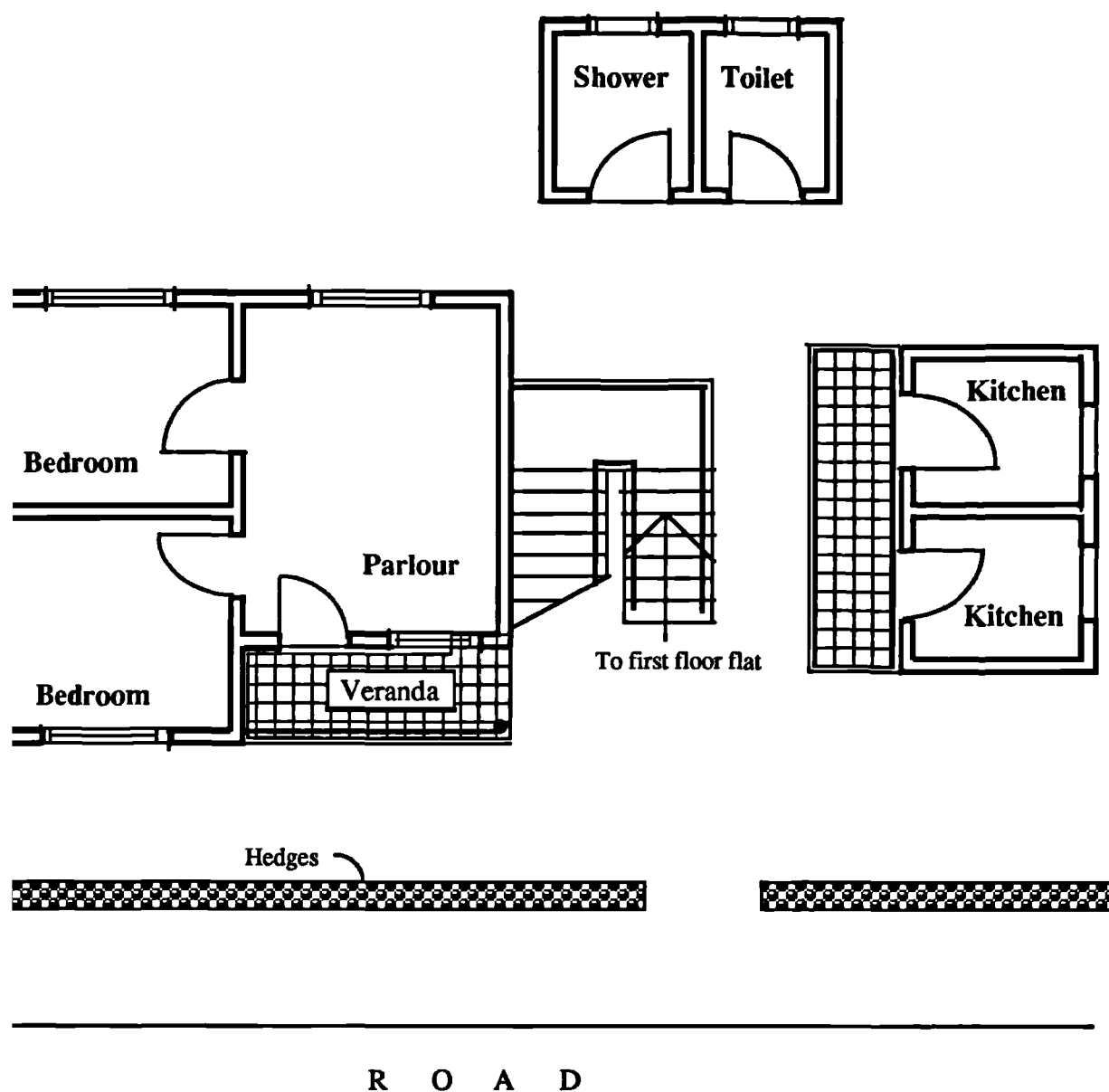


APPENDIX 'C' CONT.  
DWELLING PR39 - FIRST FLOOR FLAT



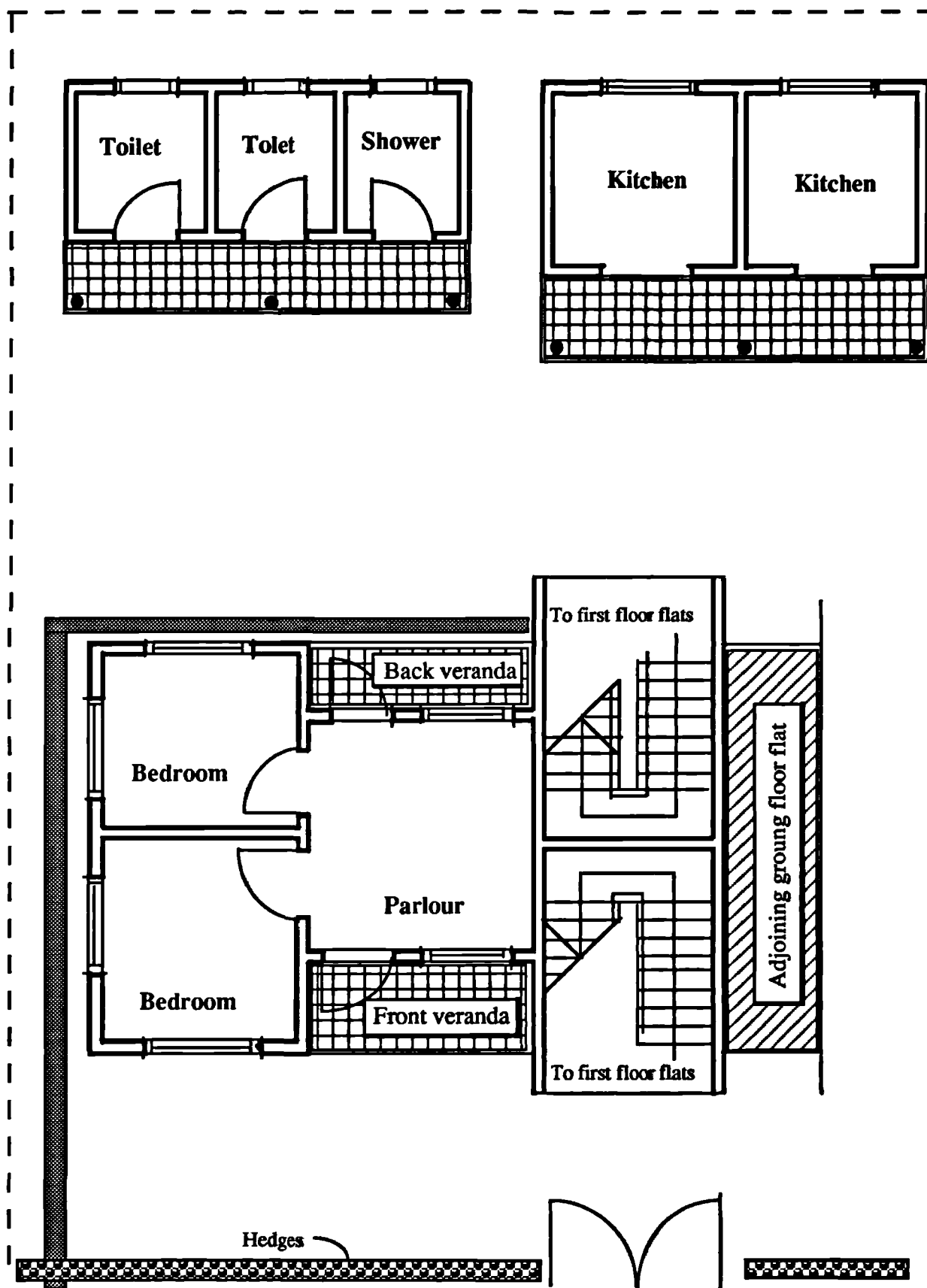


APPENDIX 'C' CONT.  
DWELLING PR40 - FIRST FLOOR FLAT



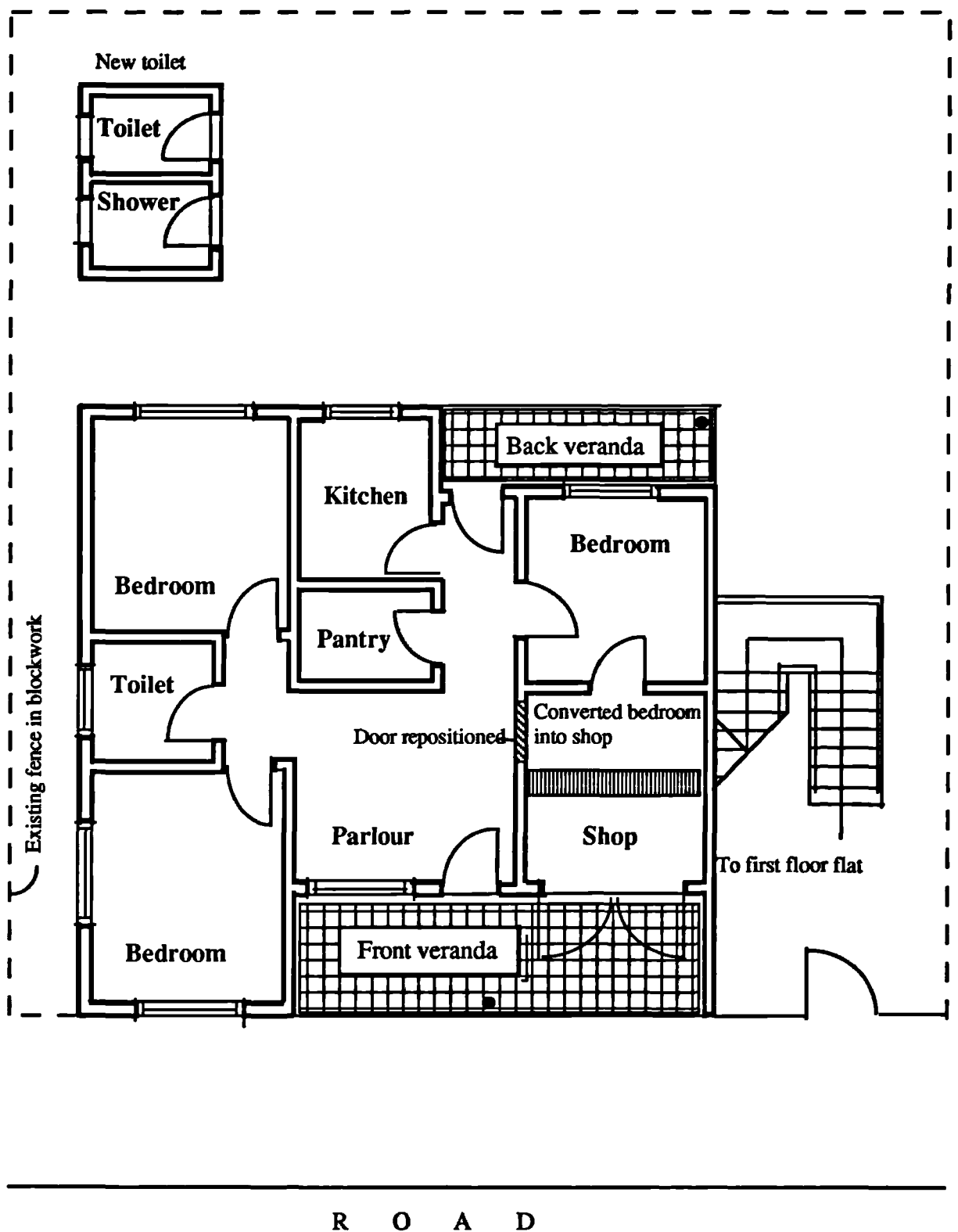
## APPENDIX 'C' CONT.

## DWELLING PR41 - GROUND FLOOR FLAT

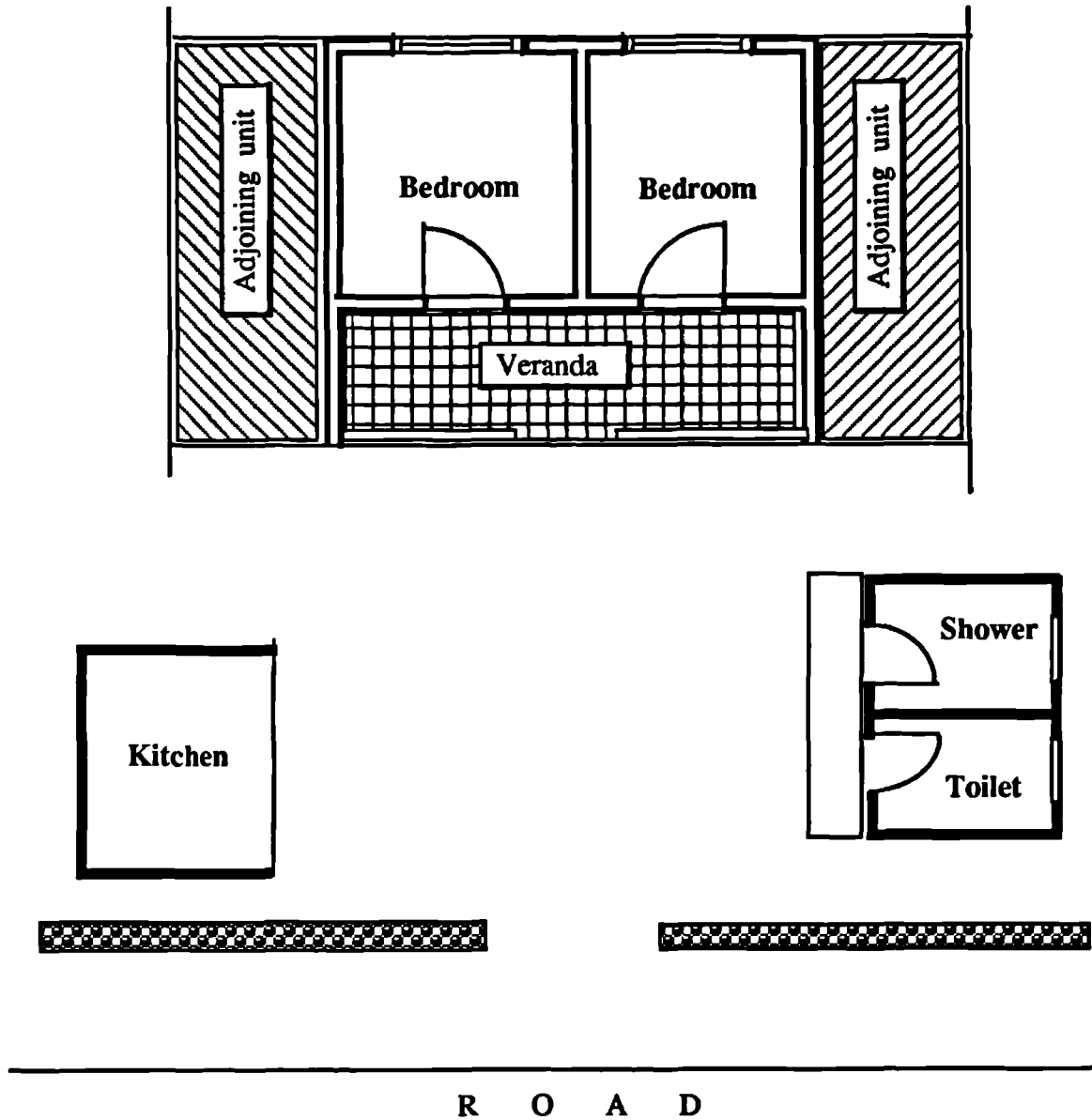


## APPENDIX 'C' CONT.

## DWELLING PR42 - GROUND FLOOR FLAT

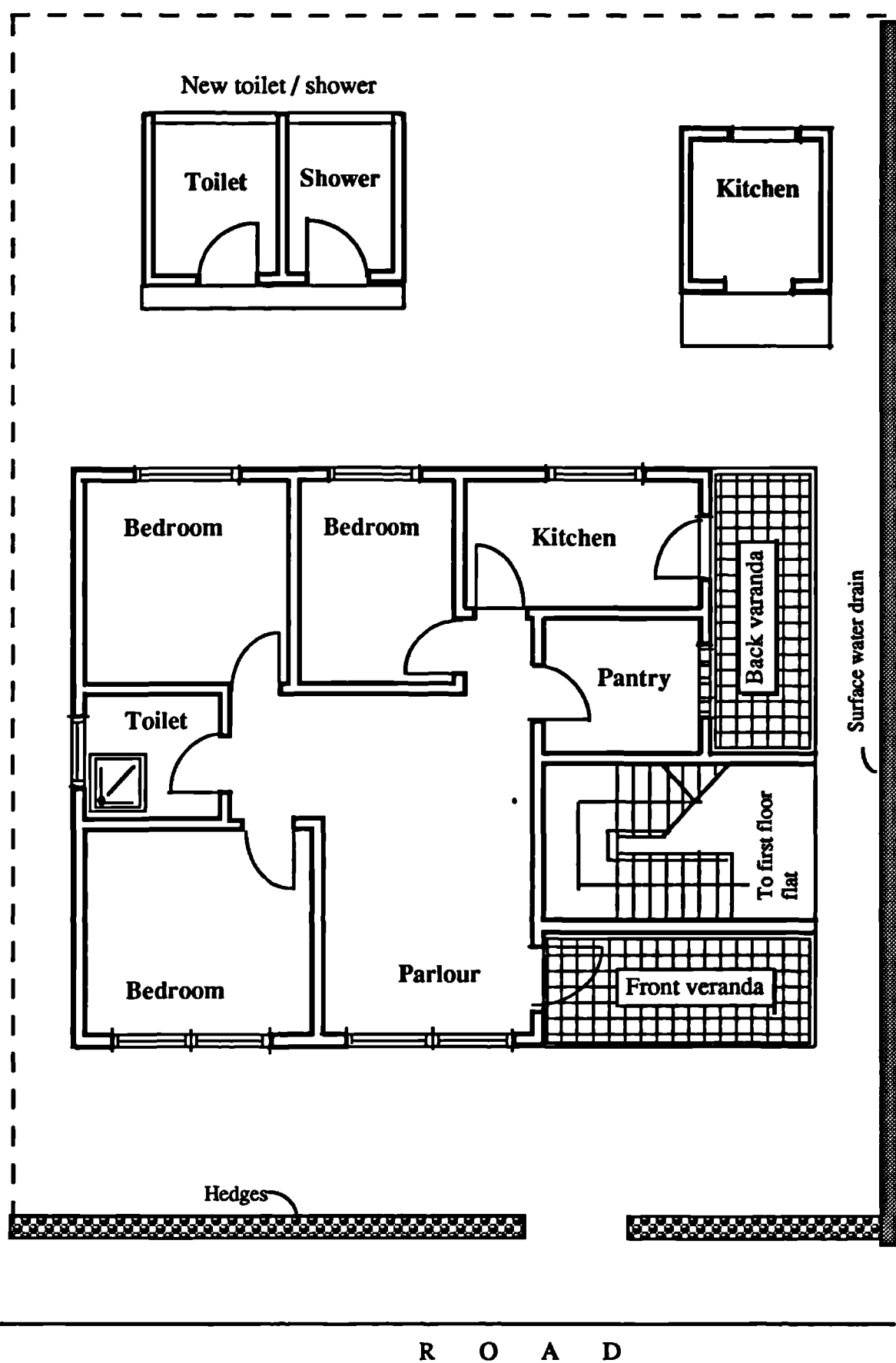


APPENDIX 'C' CONT.  
DWELLING PR43 - ADJOINING



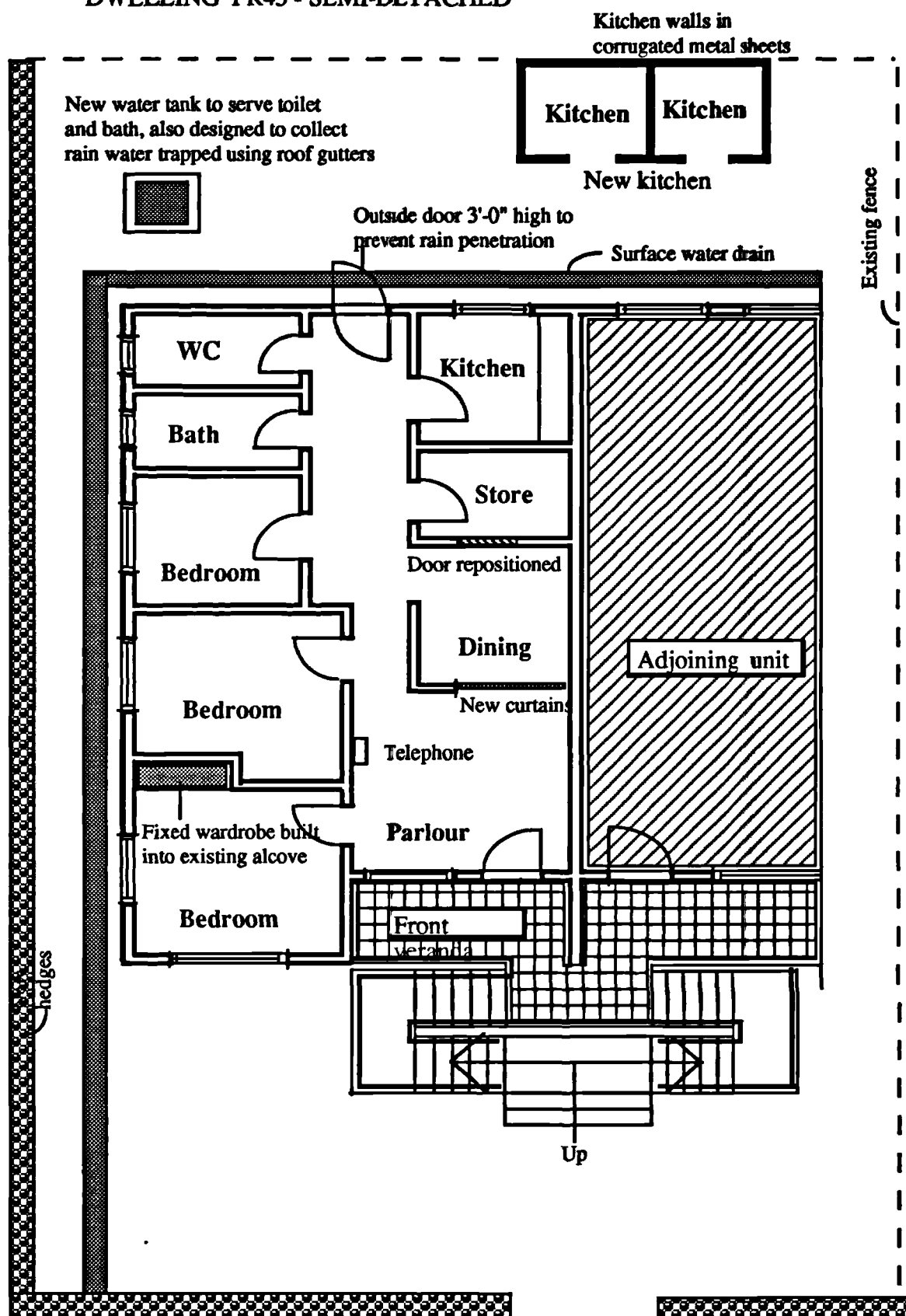
## APPENDIX 'C' CONT.

## DWELLING PR44 - GROUND FLOOR FLAT



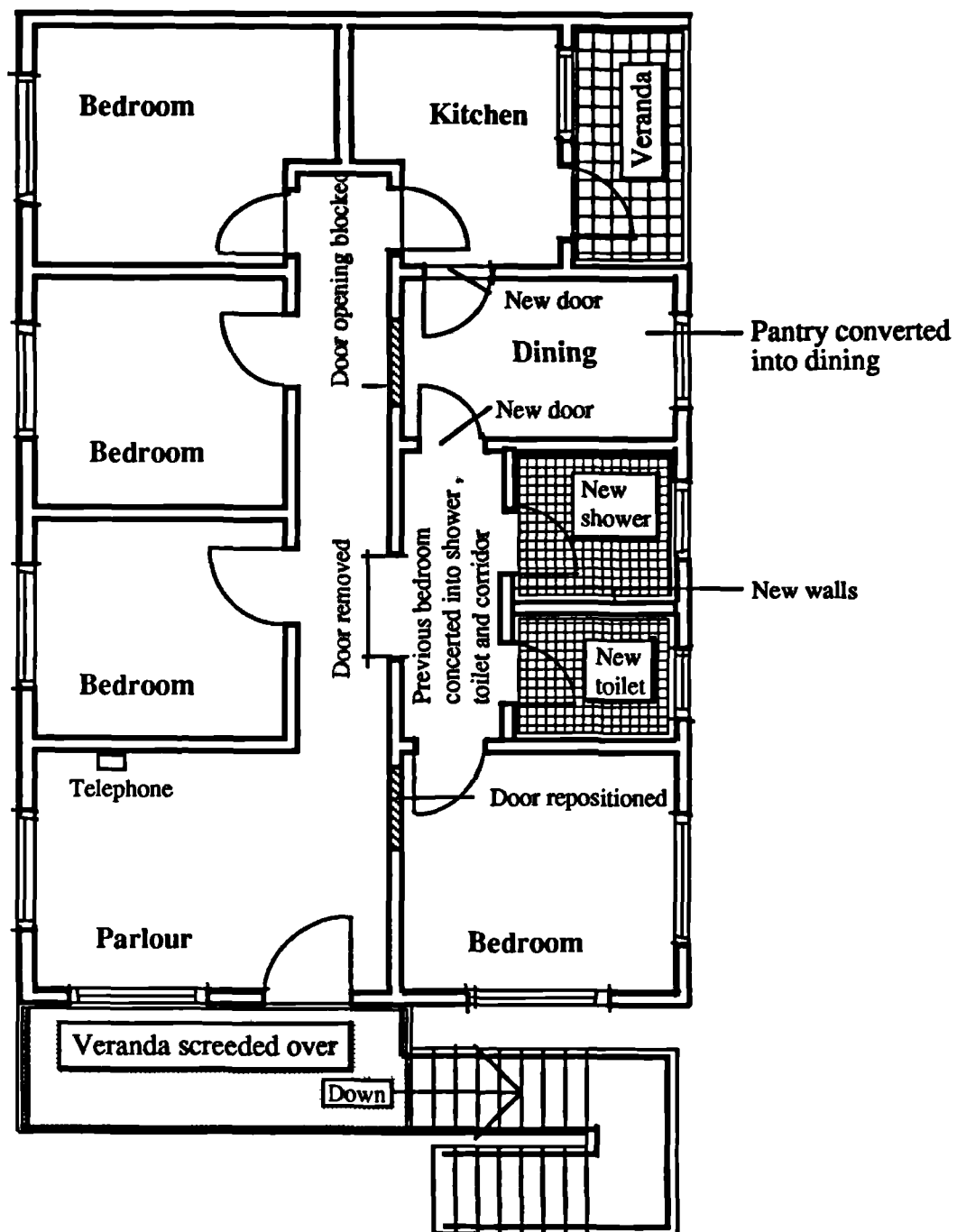
## APPENDIX 'C' CONT.

## DWELLING PR45 - SEMI-DETACHED

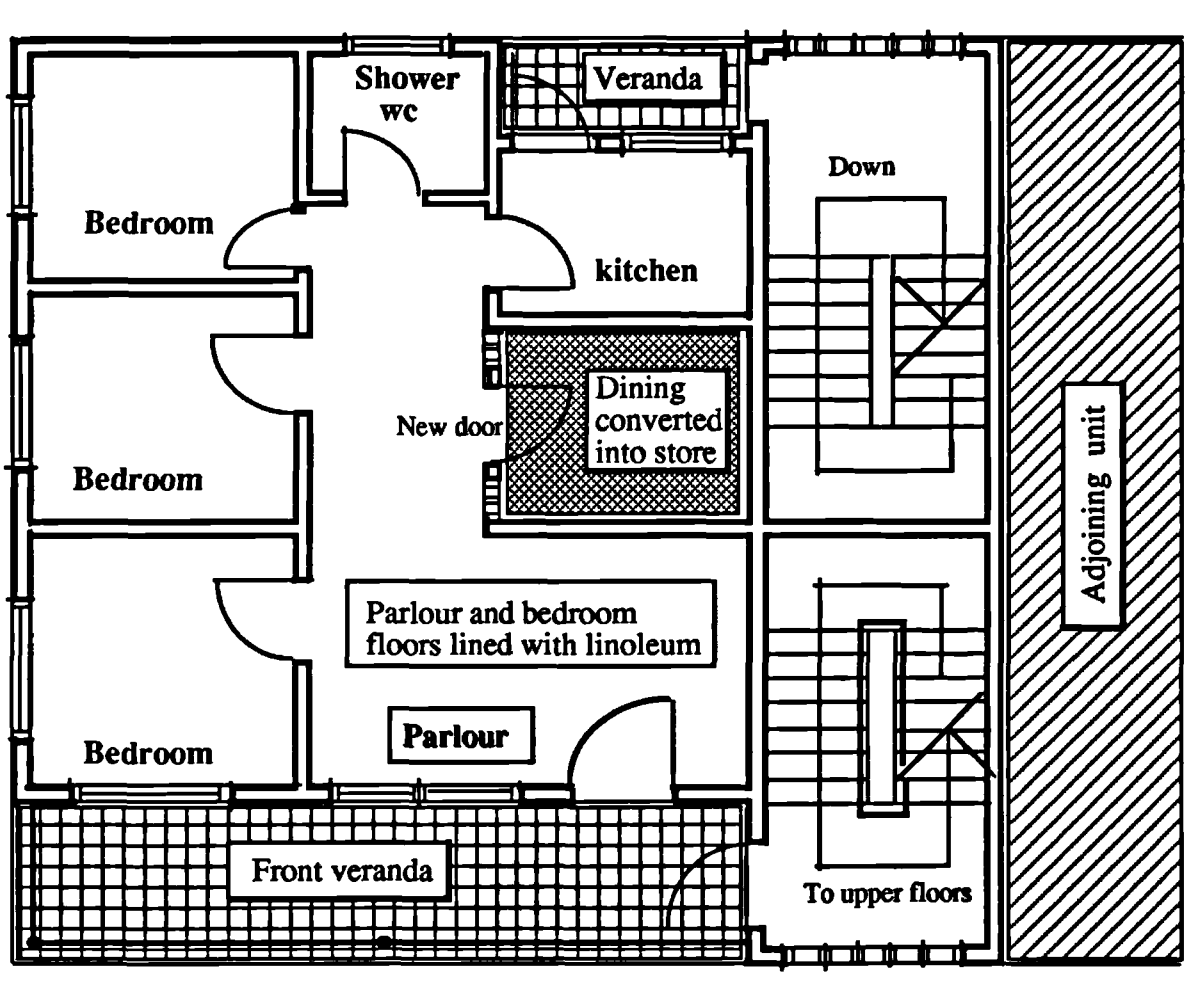


## APPENDIX 'C' CONT.

## DWELLING PR46 - FIRST FLOOR FLAT



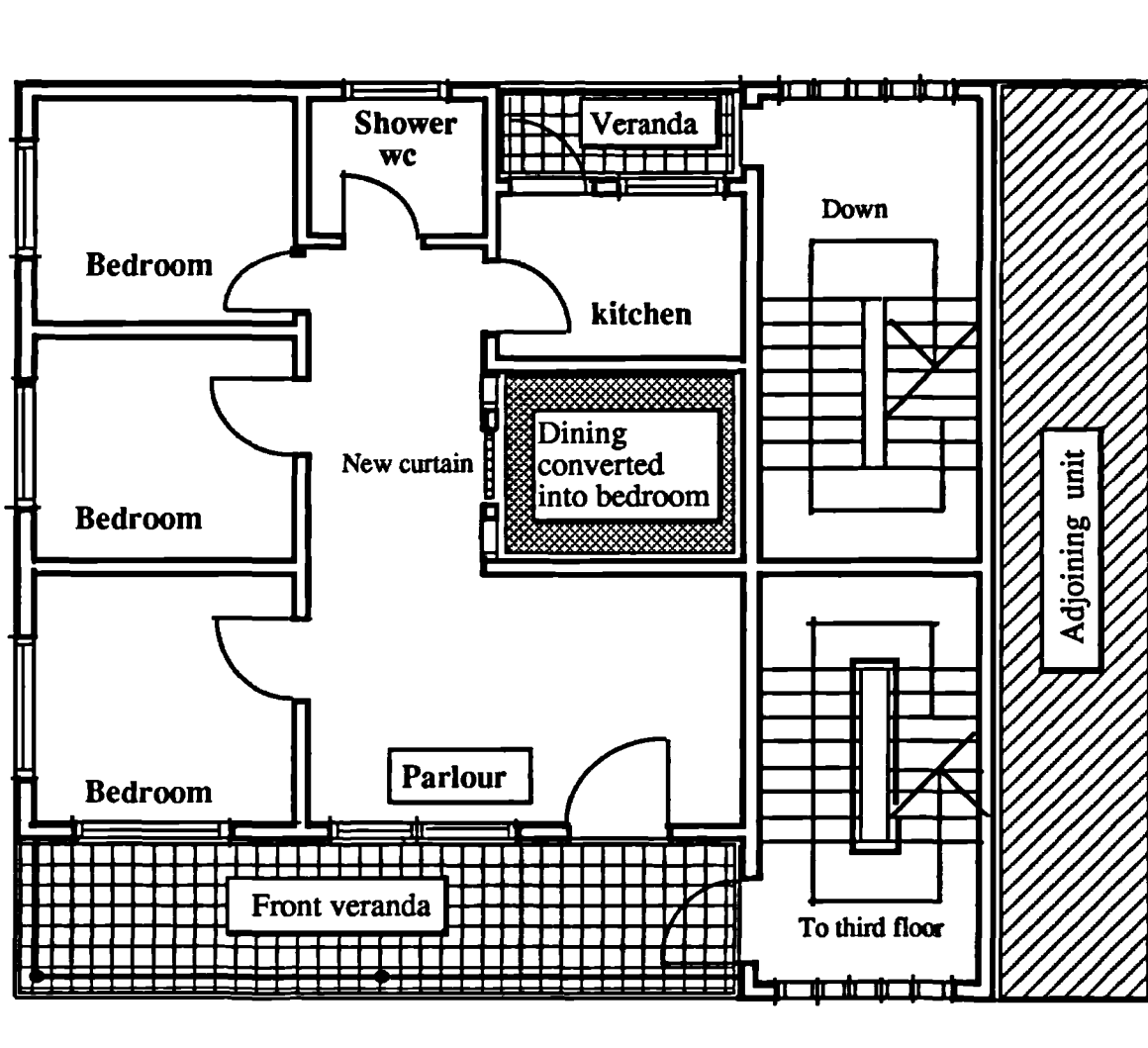
APPENDIX 'C' CONT.  
DWELLING PR47 - FIRST FLOOR FLAT





## APPENDIX 'C' CONT.

## DWELLING PR48 - SECOND FLOOR FLAT



## **APPENDIX 'D'**

### **Selective Illustrations of the Dwellings Surveyed**

**APPENDIX 'D'****Selective illustrations of the dwellings surveyed****Fig. 1****Fig. 2**

## APPENDIX 'D' CONT.

## Selective illustrations of the dwellings surveyed



Fig. 3



Fig. 4



## APPENDIX 'D' CONT.

## Selective illustrations of the dwellings surveyed



Fig. 5



Fig. 6

## APPENDIX 'D' CONT.

## Selective illustrations of the dwellings surveyed



Fig. 7



Fig. 8



## APPENDIX 'D' CONT.

**Selective illustrations of the dwellings surveyed**

Fig. 9